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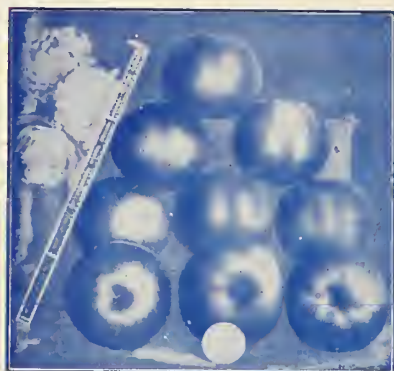
*November 1907*



PUBLISHED BY  
BETTER FRUIT PUBLISHING COMPANY  
HOOD RIVER, OREGON



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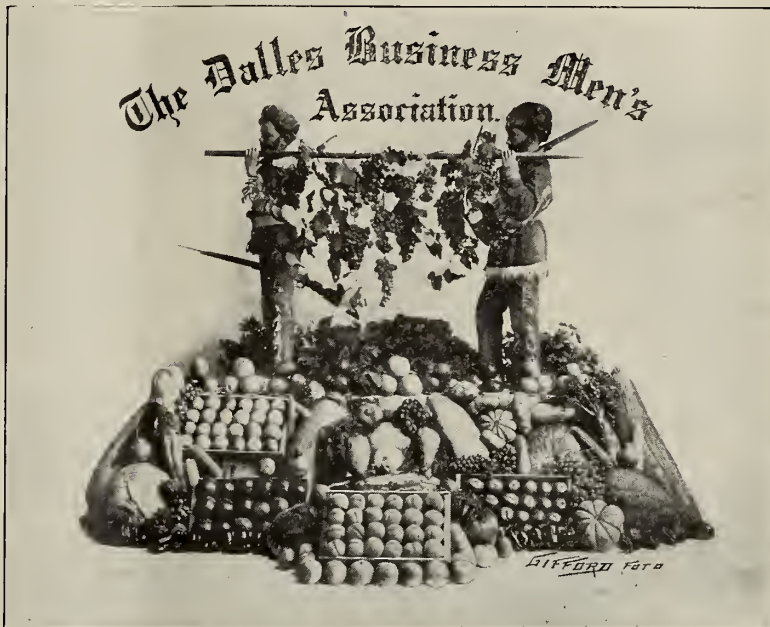
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# BETTER FRUIT

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST  
OF UP-TO-DATE AND PROGRESSIVE FRUIT GROWING AND MARKETING

## THE CAUSE AND CONTROL OF BORDEAUX INJURY

BY F. H. HALL, NEW YORK EXPERIMENT STATION

**B**ORDEAUX mixture is, without question, the fruit grower's most valuable aid in the struggle against plant diseases. For the apple grower in particular it is invaluable, for it has been, and must continue to be until something better is discovered, the specific for scab, and to neglect its use in seasons favorable to this disease will cause great financial loss.

Yet bordeaux is not a perfect application for use in the apple orchard, since it has been known for many years that under some conditions the mixture itself may cause injury. Some horticulturists and investigators refuse to recognize bordeaux injury as such and claim that "spray injury" is due to improper preparation of the mixture. They hold that properly made bordeaux, with sufficient lime to neutralize the acidity, is always safe to use. Evidence has so accumulated, however, especially during the past two seasons, that there can no longer be any doubt that bordeaux made with extreme care and using a great excess of lime may sometimes spot the leaves of the apple and mark or deform the fruit.

Several classes of evidence support the statement that bordeaux is sometimes injurious: (1) Circular letters were sent in the fall of 1905 to 116 of the leading apple growers of New York State, and of the 108 answers received 98 were from men who had used bordeaux in 1905. Nearly all of these report some experience with injury, while 69 of the 98, or about 70 per cent, report severe injury to fruit or foliage or both. Ten of these growers believe that the spraying did more harm in 1905 than the apple scab for which the bordeaux was used. (2) Many American investigators, from Weed in 1889 to Scott in 1906, have recognized bordeaux injury in one form or another, among those making announcement in print relative to the direct connection between the mixture and the injury being Weed and Green of the Ohio station, Jones of the Vermont station, Bain of the Tennessee station, Beach and Stewart of this station, Lode-man of Cornell station, and Von Schrenk and Scott of the United States Department of Agriculture. (3) Through correspondence many others have confirmed the belief that bordeaux injury really exists, independent of any "burning" of foliage through deficiency of lime or improper making. Among those in America so writing may be mentioned Walker in Arkansas, Macoun in Canada, Paddock in Colorado, Gulley in Connecticut, Henderson in Idaho, Beach in Iowa, Munson in Maine, Fletcher in Michigan, Faurot in Missouri, Emerson in Nebraska, Sanderson in New Hampshire, Green in Ohio, Sears in Nova Scotia, Butz in Pennsylvania, and Melander in Washington. (4) Other letters from foreign experimenters report similar

phenomena in France, Germany and other Continental countries and in Australia, Tasmania and New Zealand. (5) In experiments made by this station in investigation of the subject, when the bordeaux was made by the horticulturist in person, following the most approved formula and exercising every care to secure a perfect mixture, 22 per cent of

stronger. Most, though not all, of these peculiarities are due to variations in weather conditions, for it is now certain that unfavorable moisture conditions play by far the largest part in bringing out the poisonous action of the copper in the bordeaux. But the manner of spraying, kind of nozzle used and quantity of the mixture applied are also important agencies in influencing the extent of the injury, while it is probable that any factors like rich soil, good cultivation and young, thrifty trees that favor rapid development of foliage will make the leaves more succulent and tender and consequently more susceptible to injury. "At any rate the most thrifty best kept orchards, in which foliage is abundant and healthy, seem most susceptible to bordeaux injury."

Bordeaux injury manifests itself in two general ways: By spotting the leaves, often to such an extent as to defoliate the trees to a noticeable degree; and by marking and deforming the fruit.

On the foliage bordeaux injury greatly resembles the leaf spot supposed to be caused by fungi. Dead, brown spots first appear, which may be small, circular or roundish, or larger and of irregular shape, as though several small spots had run together. The living and dead tissue are separated by a distinct line, so that the spotting is very conspicuous. Later, if the injury is severe, the leaf turns yellow over more or less of its surface and finally drops off as in natural falling. Many of the orchardists reporting, place the amount of defoliation during 1905 at one-half or more of the leaves, while in a few instances nearly all of the first leaves fell.

On the fruit the injury first appears as minute, round, black or brown spots or specks, less than pin-head size, which are clustered either (1) at the apex of the fruit if the injury results from spraying before the little fruits have turned down, or (2) at the base of the fruit if the injury results from later sprayings. Subsequently the characteristic "spray russetting" or "cork russetting" appears. The plant cells injured by the spray form thick, corky tissue, which roughens or russets the apple, the extent of the marking varying with individual fruits. These characters give the fruit the appearance of having been attacked by a fungus. Brightly colored fruit is much marred, both by the russetting and by a decreased brilliancy of the unspotted areas. Badly injured specimens are always more or less distorted in shape, the affected areas being usually shrunken. Occasionally unsightly, teat-like malformations are produced, or gaping cracks in half-grown fruits which heal over as the fruits develop, leaving rough sunken scars.

These injuries affect the keeping qualities of the fruits to a marked extent, the moisture being rapidly given off, in dry rooms or cellars, through the corky

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the fruit on one tree was marked by the spray and practically all the trees under test showed marked spotting of the fruit when the spraying was done under certain weather conditions. Many peculiarities in the distribution and extent of bordeaux injury are shown by the reports upon it. Often the apple grower who has lost heavily by such injury says, "I have sprayed just as in past seasons, when I have had no injury." The damage is severe in some seasons, some localities or some orchards; scarcely noticeable in other seasons, other localities and other orchards. Even part of the trees in a single orchard may be badly affected, while other trees in the same orchard escape entirely. In some seasons the harm is greatest upon the foliage; in other seasons, on the fruit. Varieties whose leaves are badly spotted may show no sign of injury on the fruit, or the reverse of this may be true. Sometimes the damage is evident within a few days after spraying; again it may not reveal itself for several weeks. Strangest of all, not infrequently very weak bordeaux causes greater injury than a much stronger mixture used under similar conditions, though usually the injury is greater as the mixture is



tissue, so that the flesh below shrivels or becomes mealy, or in extreme cases may turn brown as if bruised or exposed to the air. In such cases decay sets in rapidly. With late-keeping apples this phase of the injury is very important, as the keeping quality is affected, no matter how slight the russeted area.

In cold storage the depreciation of russeted apples is not very rapid, but such fruit is not wanted by retailers, as it keeps very poorly when brought from storage into a dry atmosphere.

Certain injuries to foliage and fruit may be confused with bordeaux injury, though usually there are points of difference easily separating them.

The arsenites, when used in too great quantity, when improperly prepared, or under very unfavorable circumstances, may injure foliage as does bordeaux mixture, and in some cases where paris green or london purple is used the injury may be indistinguishable from bordeaux injury. But this occurs very rarely, and only under conditions which would produce bordeaux injury. Any direct poisoning by the arsenites results in an immediate effect, the damaged parts becoming blackened within a day or two in large blotches or over the entire leaf. If only part of the leaf is affected, the remaining portion quickly withers.

Frost causes a similar russetting of the fruit, but the injury in this case usually extends about the apple in bands of greater or less width, midway between base and apex. In most cases the russeted layer is not so thick and is smoother than that caused by spraying. Usually only a few fruits in an orchard will be marked with frost injury, these being on trees in low, frosty situations, and these frost injuries to the fruit are associated with others to the foliage which are characteristic and differ markedly from bordeaux injury to foliage. On foliage frost causes distortion of the leaf, the margins being drawn downward, while the upper surface is wrinkled and puckered, due to separation of the leaf tissue from the lower skin of the leaf in a large cavity or blister. The tissue does not usually blacken or turn yellow, as in bordeaux injury, but remains green throughout the season.

Scab and other fungi cause russetting and malformation of apples and pears, particularly the latter, which resemble bordeaux injury very closely and which in some cases may be distinguished from the latter only by careful examination; but well-sprayed trees should not show the presence of much scab, while these same trees may show much bordeaux injury. On leaves, the condition known as leaf spot has commonly been ascribed to one or more fungi found growing in the spots, but it is more than probable that in many cases, on sprayed trees, the first injury was due to the bordeaux and that the fungi came later as saprophytes or harmless dwellers rather than as destructive parasites. This phase of the question, however, requires further careful study. In some cases the lenses formed by drops of water on leaves may condense the sun's rays to such an extent as to burn and spot the leaves, but conditions

liable to produce such injuries are rare, and the same conditions would be likely to produce serious bordeaux injury if the trees had been sprayed just before those conditions arose.

That lime may be the cause of such injuries is claimed by some, but in all observations made by the station no injury from properly slaked lime has been noticed, even where the lime is in great excess. Unslaked lime upon foliage or young shoots may cause severe burning, but the effects of this are very different from bordeaux injury, there being no spotting or yellowing. The leaves and shoots wither and dry up immediately and the leaves drop.

From the letters received it was quite evident that the bordeaux mixture itself, not any insecticide used with it, was the cause of injury, and most of those reporting with reference to weather conditions said the injury was greatly increased by rain following the spraying. If this be true, then the harm must be

due to some chemical or physical change in the bordeaux caused by moisture and produced after the mixture has dried on the fruit or foliage. Professor Bain, of the Tennessee station, has made careful studies along this line, particularly upon peach foliage, which is peculiarly subject to bordeaux burning. His latest conclusions upon the subject are about as follows: The lime, only, of bordeaux mixture retards the injurious action of the copper sulphate. When the mixture is first dried on the trees most of the lime exists as the hydrate of lime, which is very soluble, while a short exposure of the dried mixture to moist air, as to a heavy dew, changes the hydrate of lime to the carbonate of lime, which is much less soluble. If, however, a rain falls before the change to carbonate has occurred, the soluble hydrate of lime is washed away, leaving the copper salts free to exert their poisonous influence upon fruit or foliage. "Following rains or dews will thus cause much greater



ONE OF THE FAMOUS HEAVY BEARING PEAR TREES NEAR MEDFORD

This tree is in the orchard of the late J. H. Stewart, known as the father of the fruit industry in Jackson County, Oregon



injury than would have occurred if a few dews had followed the spraying before the occurrence of the rain."

Bordeaux injury, or "spray injury," has been quite injurious locally in New York State at various times, notably in 1894 and 1904; but in 1905 such serious damage was reported from all the apple-growing sections that the station was impelled to make a thorough investigation of the matter. Preliminary information was secured through circular letters sent to leading orchardists. The replies to these letters show clearly that the harm was widespread and great.

Some growers believe the spraying in 1905 to have been a damage rather than a help, and others report defoliation to the extent of half or more of the leaves in large orchards and losses of fruit ranging up to 100 barrels.

The replies indicated clearly several important facts, and the direct experiments of the station were planned to ascertain the truth or falsity of these indications. First, a large majority of the correspondents ascribed the injury to bordeaux; second, fifty-five of the sixty-nine men who reported "spray injury" had used an excess of lime in

making the bordeaux, and seven of them from two to three times as much lime as required, without materially reducing the injury; third, fifty-seven replies gave wet weather as a marked contributory cause of the injury.

The test by the station, as planned and carried out, gave positive evidence along each of these lines. The work was done in the station orchard upon twenty-seven Rhode Island Greening and eighteen Baldwin trees. These trees are about fifty years old and were selected from a much larger number of trees of the same kind, in the same orchard, so that uniform plants might be compared.

As these trees had all been sprayed with the lime-sulphur wash for San Jose scale, the first of the usual three applications of bordeaux was omitted as unnecessary, but all the trees except the checks were sprayed once just after the blossoms fell and again about ten days or two weeks later with bordeaux containing varying amounts of copper sulphate and of lime, with arsenate of lead to control codlin moth.

The trees were divided into nine lots or plats, each of five trees. On plats 1 to 4 the bordeaux contained equal amounts of copper sulphate and lime, while on plats 6 to 9 twice as much lime was used as of copper sulphate. Plat 5 was a check, sprayed only with arsenate of lead. On plat 1 and plat 6 the bordeaux contained one pound of copper sulphate in fifty gallons of water, and the strength of the mixture was increased by successive additions of one pound of sulphate, so that plat 4 and plat 9 were treated with four pounds of sulphate in fifty gallons of water. The ingredients were all weighed, measured and combined by the State Horticulturist, the mixture being made by uniting dilute solutions as called for by latest and most carefully tested methods. The applications were made with a power outfit, using Vermorel nozzles, care being taken to spray from all directions and to cover the trees thoroughly, without drenching. On these trees, even those sprayed under the most unfavorable conditions, no injury to foliage resulted, but the fruit was badly affected. In discussing this injury exact figures are given, for the fruit was twice sorted, apple by apple, both picked and windfalls, and graded as to spray injury and as to scab injury. In sorting for bordeaux injury, no fruit was counted as injured unless it had a sufficient amount of russetting or malformation to detract from its general appearance; but in sorting for scab, a well-defined scab spot classified the apple as scabby. The crop averaged 103½ bushels per tree for the forty-five trees.



In A Vineyard of  
SOUTHERN OREGON  
#303

#### A REMARKABLE SCENE IN A SOUTHERN OREGON VINEYARD

As a section for growing fine table grapes the Rogue River Valley is not surpassed by even California. All of the finest European varieties grow there to perfection



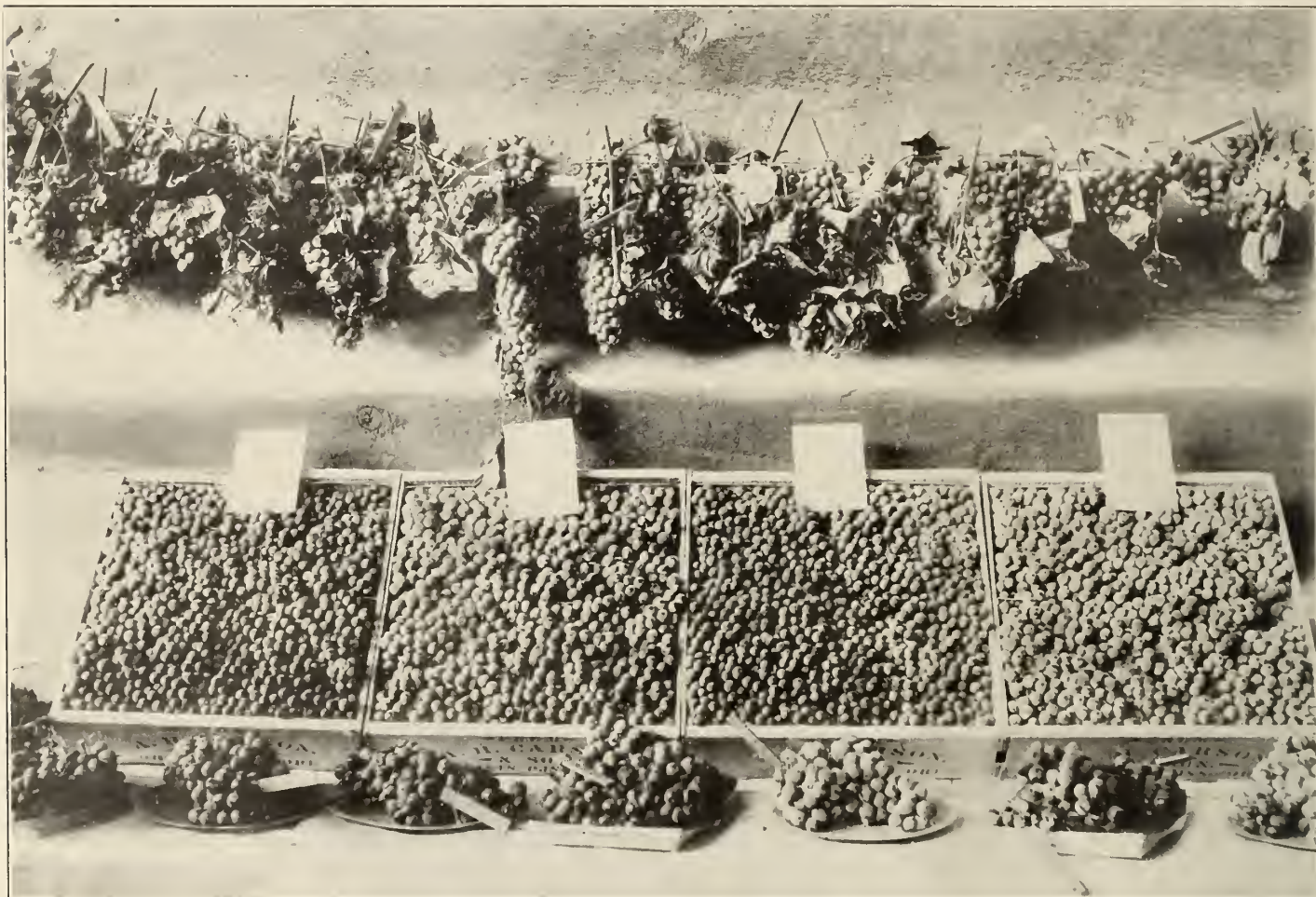
# A HORTICULTURIST'S OBSERVATION OF OUR FRUITS

BY C. I. LEWIS

THE exhibit held at Grants Pass, in connection with the State Irrigation Congress, emphasized more than ever the adaptability of Josephine County for grape growing. Although somewhat early for a representative exhibit of grapes, it was nevertheless of such a nature as to impress all with the wonderful future of the grape in that locality. The exhibit of A. H. Carson attracted much attention. He is one of

mates state that at least a hundred thousand boxes of Gravensteins were grown there the past season. One shipment of five thousand boxes was sent to Australia, while a large shipment was sent to Alaska, reaching that country in time to be sent a considerable distance inland before navigation closed. Mr. Dow, the principal buyer in that region, told me that thus far he had found only one wormy apple and that came from twenty-

known in that locality; but, as is usual in localities where it is claimed good apples can be grown without spraying, the average quality would be much better if spraying were resorted to. The lime-sulphur spray could be used to good advantage in keeping trees free from moss, in softening the bark, and in aiding in controlling the scab, which at the present time is their chief enemy but can be largely controlled. The finest



PRIZE GRAPES, GRANTS PASS, OREGON, FRUIT FAIR

Grown by A. H. Carson, Horticultural Commissioner for Southern Oregon District. Varieties are Ione, Concord, Moore's Diamond, Rose of Peru, Tokay, Malaga, Moloosie

the most progressive grape growers in the country and today is realizing splendid returns, receiving the highest prices in Portland and local markets. There are in Josephine and Jackson Counties thousands of acres of the finest grape land in the world that can be bought very cheaply—some of it as low as ten dollars per acre. There is no reason why this section should not become a second Fresno. All indications point to success, not only with Vinifera, Tokay and Malaga, but with the American grapes, such as Concord, Niagara, etc., which grow to perfection, and can find good demand in the Coast markets before any others are mature. Some apprehension has been shown by some people as to the market for the grapes that could be grown in Oregon. The present condition can be easily understood when I state that Mr. Carson was recently requested by a St. Paul firm to furnish ten carloads a day of Tokay grapes as long as the season lasted.

Coos Bay has not generally been considered an apple country, yet recent esti-

mates state that at least a hundred thousand boxes of Gravensteins were grown there the past season. One shipment of five thousand boxes was sent to Australia, while a large shipment was sent to Alaska, reaching that country in time to be sent a considerable distance inland before navigation closed. Mr. Dow, the principal buyer in that region, told me that thus far he had found only one wormy apple and that came from twenty-

known in that locality; but, as is usual in localities where it is claimed good apples can be grown without spraying, the average quality would be much better if spraying were resorted to. The lime-sulphur spray could be used to good advantage in keeping trees free from moss, in softening the bark, and in aiding in controlling the scab, which at the present time is their chief enemy but can be largely controlled. The finest



PERMANENT EXHIBIT BUILDING NEAR RAILROAD STATION AT MEDFORD, OREGON



his orchard as regards such practices as cultivating, thinning and pruning, and his box of apples served as a splendid object lesson as to what can be accomplished by good care. At the recent exhibit held at Marshfield, many fine boxes and plates of fruit were shown, which all goes to indicate that that region has a bright future for Gravenstein apples when they give the industry the attention it deserves.

There is another industry that bids fair in time to assume large proportions, not only in Coos Bay, but all along the coast, and that is cranberry growing.

large, juicy berries, with few seeds, and a very delicate flavor, and yielding enormously. It all tended to show the relation of environment to quality of fruit. In these mountains we find that nature provides plenty of moisture, whereas in other parts of our state this berry often grows where the moisture supply is limited, resulting in a rather sour, hard, seedy berry. If given a very little attention and furnished with moisture, either by irrigation or through cultivation, this berry can be made of great value to us, coming as it does when nearly all other berry fruits are exhausted.

he can double-crop any variety that develops more than one crown in a single season. He has also demonstrated that he can mulch strawberries with good results.

Mr. H. B. Steward, of Myrtle Point, is its postmaster, but spends some of his spare time in growing strawberries. He has a few acres of bench land, which is a rather heavy clay, but by the liberal use of stable manure he keeps his soil in a good mechanical condition. He pays especial attention to picking out a few of the best plants as propagators, and never allowing them to bear fruit. These



GRANTS PASS, OREGON, DECORATED FOR THE MEETING OF THE OREGON STATE IRRIGATION ASSOCIATION AND ITS FRUIT FAIR

Thousands of acres are lying idle today that could be made to pay a handsome profit. A few bogs have been started in the neighborhood of Marshfield, and although comparatively new are paying as high as two hundred dollars per acre. The market for the cranberry is very large, and Oregon should take advantage of her wonderful natural resources and become a leading cranberry state.

In crossing the coast mountains I was very much attracted by the evergreen blackberry. Under conditions there it seems to grow to remarkable perfection—

Oregon can boast of some of the most progressive strawberry growers in the country. It has been my pleasure to meet three or four of these men the past season. Mr. E. S. Wolfer of Central Point is a man who thoroughly loves his work, and as a result of his close observation has made many interesting notes as to the different varieties and their adaptability to our climate. By producing a good vigorous plant and by the aid of irrigation he has been able to get two and three crops from many of the leading varieties. In fact, he has found that

plants, when given good cultivation, have produced startling results, single plants yielding as high as three hundred berries or as high as three gallons to the plant. He has averaged as high as a dollar and a half to the plant and his patch the past season paid at the rate of sixteen hundred dollars an acre. The same plants yielded him berries from May until October and to a certain degree as late as Christmas. Mr. Steward does not irrigate.

At the State Fair B. S. Worsley of Svenson had an exhibit of strawberries called Autumn Bell, which he says is a hybrid, the wild strawberry being one parent. They were strong, vigorous looking plants, well loaded with fruit. He stated that the variety is one that is a shy bearer in spring, but a heavy producer in late summer and early fall, bearing up to the twentieth of October. The past few weeks from a patch slightly greater than two acres he had been picking forty crates a week, which were sold at \$4.80 a crate in Seattle. He does not resort to irrigation.

The Pacific Northwest offers a great field to the strawberry grower. In a large area irrigation can be resorted to, producing enormous yields and often three crops. Where these large crops can be obtained, growing for the canneries can be made very profitable.

The horticulturist who has a few hours to spare while at Portland should take time for a trip to Milwaukie to visit the



DISPLAY OF FRUIT AT THE GRANTS PASS, OREGON, FAIR



place of J. H. Reed, Commissioner of the First District. It is a model of what good care will bring. Mr. Reed has divided his prune orchard into two parts. On one half he grows cover crops, and on the other he does not. It is a splendid illustration of what a cover crop will do, the difference being very marked, giving the trees a heavier, darker foliage, and producing a much better growth. The soil around these trees was found to be in an exceedingly mellow condition. A few years ago Mr. Reed had a cherry orchard of about one hundred and twenty-five trees. They were nearly

finest grade of Concord grapes, which were worth a long trip to see. The prunes and grapes, with a few small fruits, are paying a good dividend on this small place of twenty thousand dollars valuation. In speaking of grapes, I would add that the people of Oregon should grow them more and form the habit of eating them more, for they are ranked among the most healthful of fruits. There seems to be a common opinion in Western Oregon that grapes cannot be grown there; but Mr. Reed and also Mr. W. K. Newell, President of the State Board of Horticulture, have both demonstrated the

exposure. With good south or southeast exposure and with the same degree of care that is given our other varieties of fruits, the grape will fruit with great success.

A recent visit was made to the Webb cherry orchard at Troutdale. This young ten-acre Lambert orchard paid a profit of two thousand dollars the past season. The coming season its owners are to co-operate with the experiment station of the Oregon Agricultural College as to the best method of pruning and growing cherries. The heavy cherry crop harvested the past season, bringing, as it did



WENATCHEE VALLEY FRUIT ON DISPLAY AT EVERETT, AT MEETING OF WASHINGTON STATE HORTICULTURAL SOCIETY

dead. He cut out all the dead wood and since then has kept hogs in the orchard. Today the trees are very thrifty, bear very large crops, and show but few evidences of gumosis. Mr. Reed had a four-acre vineyard, heavily loaded with the

success of grape culture. On the college grounds of the Oregon Agricultural College at the present date, October 1, over twenty varieties have been successfully fruited the past season, and this on rather adobe clay soil in an unfavorable

in many cases, splendid profits, has given a great stimulus to cherry growing. In order to determine the causes of gumosis and the methods of combating it, the station will in the near future begin an investigation of cherry growing in Oregon.

## TELLS OF NEW WAY TO POLLENIZE CHERRIES

**W.** G. ALLEN, manager of the Allen Fruit Co., at Eugene, tells of an interesting and valuable experiment for pollenizing Royal Anne cherries which was tried this year with successful results. In his circular Mr. Allen says:

"There has been quite a little trouble with the growers of Royal Anne cherries on account of their not bearing fruit regardless of the season. In studying the cause for this we have been impressed with the fact that this trouble seems to be almost entirely with orchards where there is only one variety of cherries. This leads to the conclusion that the Royal Anne cherry is a weak pollenizer and requires the mixing of varieties to insure proper fertilization. When the season is favorable the pollen will carry much further than others, but as a general rule the season for blossoming is not clear and warm enough to allow the pollen to be carried very far. It will be well for growers to make provisions to have different varieties planted in orchards of Royal Anne or top graft some of the trees. Experiments were carried on last year in pollenizing Royal Annes, and worked so well that they may profit by the result. The experiment was tried as follows: 'Take a few branches from the tree of a cherry of some other variety of cherries than Royal

Anne; Black Republicans have given good results. This should be done just as the blossoms have come out full; tie these into the tops of the Royal Anne cherry trees and it will be found that the pollen of the cross variety will pollenize the Royal Anne cherry blossoms to such an extent that it will very materially increase the yield. Care must be taken to get varieties that blossom about the same time, and if the branches

are large enough the ones that are cut off will still give vigor enough to the blossom to allow it to bloom perfectly.

"This experiment is easily tried, and if it works as well this year as it did last it will pay well to do the work, and will materially increase the crop until such time as the other varieties that should be either set in the orchard have blossomed, or till the top grafts begin to blossom."



ONE OF THE COMMODIOUS AND WELL EQUIPPED FRUIT HOUSES IN SOUTHERN OREGON



# OREGON'S PIONEER APPLE GROWING DISTRICT

BY M. L. VAN DORAN

**I**N THOSE luxurious days when early pioneers first laid their eyes along the Oregon country there was no trick about the production of perfect apples in any section of the territory. It was but the pastime of a summer day. One of the first industries taken up by these pioneer farmers was the growing of apples and the first plantings were made in the Willamette Valley. In those early years the Willamette Valley was

by the fruits of no clime since the growing of apples first began. When, by proper care, invading pests are eliminated, Willamette Valley fruit is today just what it was yesterday and will be forever. All the conditions of climate, atmosphere and soil necessary for the production of perfect fruit are identical today with those obtaining when the valley earned her original fame as "the land of big red apples." Many of the trees

of farmers. On the west side of the valley, besides a few orchards like those of Messrs. Van Dorn, Moulton, Wallace, Allen, and smaller plantings in Yamhill and those of Messrs Newell, Atwell and others in Washington County, there are two of the largest orchards in the state. These are the great Wallace orchard of Spitzenbergs in Polk County and the Lownsdale orchard at La Fayette in Yamhill County. From the Wallace



OVERLOOKING A MILE OF APPLE TREES IN THE ORCHARDS OF M. O. LOWNSDALE, AT LAFAYETTE, OREGON

practically the Oregon country, and it was the beauty, the high quality, the lusciousness of apples raised in that valley that gave Oregon its primal fame. We must always remember that Willamette Valley fruit made the name of Oregon a household word throughout the United States and coupled with that name the appellation of "the land of the big red apples." Other sections may appropriate the title, but it will always be second-hand to them. The original "land" is the Willamette Valley, which is still doing business at the old stand, a virile reflex of its romantic legend. Up to the time that pests appeared in the valley (comparatively a few years ago), the extreme quality in size, form, color and flavor of Valley fruit was the wonder of the world. It has been surpassed

planted in those days throughout the western half of the valley are today producing fine fruit. Trees planted in the very early '50s, having had their tops cut back and renewed, are prinked in their best this year, as if determined to show what they still can do.

There are comparatively few commercial orchards in the western Willamette Valley. Farmers of the great valley have such variant interests and so many lines of industry have been opened up that the growing of apples has, of late years, been carried on principally as an unimportant branch of many farming operations. This condition was induced originally by a lack of transportation and consequently of markets. But the trend is again towards the planting of apples, especially among the newer generation

orchard the crop of 1906 (fifteen thousand boxes of Spitzenbergs), was bought by Hood River growers and shipped as Hood River apples.

The Wallace orchard, under the management of Mr. W. A. Parks, receives the best of care, and of late years has been very profitable. Spitzenbergs are usually late in coming into bearing in the Willamette Valley, but now that the Wallace orchard has become of age it will be a great and continuous producer.

The largest apple orchard on the Coast owned and operated by a single individual is that of Mr. M. O. Lownsdale of La Fayette in Yamhill County. This is an orchard of 336 acres of Baldwins, Spitzenbergs, Ben Davis and Yellow Newtowns in about equal proportion. The Newtowns are of recent grafting and are not yet in bearing. The fruit from this orchard is widely known and commands the highest prices in the markets of the world, its Spitzenbergs being of a particularly fancy grade. Mr. Lownsdale gives out but few details of his output, but maintains that his orchard outsold all other sections of the state in 1906. He attributes much of this result to the extra keeping quality of his fruit. The Lownsdale Spitzenbergs are said by fruit experts to be nearer the true type of Esopus Spitzenbergs than those of any other section of the western coast.

The work of bringing a great orchard to profitable bearing is Herculean, as there are so many obstacles to overcome that are seldom met or are easily avoided by the planter of moderate acreage. A single instance may be cited. Mr. Lownsdale is said to have left ten thousand boxes of apples on his trees last season because he could not get help enough to care for them properly during the growing season. But despite his many discouragements, Mr. Lownsdale has brought his trees to full bearing and now has a magnificent orchard, beautiful in outline and perfect in health and vigor.

Many innovations in the handling and storing of fruit are in use in the pack-



AMONG MR. LOWNSDALE'S SPITZENBERGS  
One of these trees in 1906 produced \$43.30



ing-houses of this orchard to which is due somewhat of Mr. Lownsdale's success in keeping apples. A newly designed fruit-washer especially adapted to apples was installed in 1904; also a specially constructed grader, so that practically all this tedious and necessary work is done by machinery. All fruit is stored on ventilated trays, one tier to the tray, and is seldom disturbed until after the first of January, when packing usually begins. In seasons of great crops like that of 1906, packing commences earlier, but it is the rule of the orchard for Baldwins to be marketed in February and March, being followed later by Ben

Autumn and piquant flavors from the virgin soils of their valley. At the glint of gold and of flame in the branches we can almost hear the cry, "Ah, these were the apples borne in the garden of Hesperides long ago."

### THE SAN JOSE SCALE

**T**HE San Jose scale is a parasite belonging to that class of insects which subsist by suction upon the sap of plants and trees. It exists only for a few hours in a larval condition soon after birth, and is unprotected

shelter, and possessed of wings, makes the pests very formidable and difficult to eradicate effectually when once established in an orchard. The recently born scale insect, almost microscopic in size, and of a light yellow color, is possessed of six legs and two feelers. The filament-like sucking tube is doubled up underneath the body and encased in a sheath. After the young larva has crawled to a favorable location it fixes itself to the limb and begins its life work of drawing the sap, or life blood, from the tree.

As the scaly formation develops it changes from a lemon color, in the first



SPRAYING IN MR. LOWNSDALE'S ORCHARD

Davis. The artistic beauty and delicate exactness of Mr. Lownsdale's pack of apples have received unusual commendation from dealers wherever his fruit has appeared. Printed wrappers of colored paper made especially for this orchard, a very beautiful box label and a close uniformity of grading are features of the pack. The pre-eminent characteristics of Western Willamette Valley apples are the high type of Spitzenbergs, the beauty and size of Baldwins, an especial and unwonted flavor of Ben Davis in February and later and the fine keeping quality of all varieties. The color of all red apples tends to a rich scarlet, more bright and insistent than the beautiful mahogany of Hood River or of the seductive flush of sienna in Rogue River fruit. It would not be difficult to imagine the intense gratification of the Oregon pioneers as they watched the first fruits of their orchards elaborating into size and quality, filching fire from the suns of

during this period, as is the case with the winged male at maturity. After this brief larval period is over the insect settles down and the formation of the wax-like armored covering begins. It is under this scaly protection that the adult insect does its work of destruction, and it is on account of this fortification that the mature creature is so difficult to combat. The scale insect hibernates under this protection and when the freezing season is over the males emerge from their shelter. During the latter half of May the females, surviving the winter, reproduce their young. The female scale insect is vivaporous, that is, the young are brought forth alive. In this it differs somewhat from most insects, which are oviparous, or egg producers. The females are most prolific and average three hundred young at a birth. This remarkable fecundity coupled with the fact that a new generation is brought forth every six weeks, their

stage, to an ashen gray at maturity. The raised center of the circular shell, enclosing the insect, retains a yellowish tinge throughout its existence.

The males attain their full maturity in about thirty days from their birth. At this time they emerge and look very much like a tiny fly. The females reach their final development in about the same length of time as the male. Within forty days from their nativity they produce young, and in the course of a single summer, in the Northern States, produce from four to five generations. The female insect is usually about one-thirtieth of an inch in length and a little less in breadth. The male is about of the same dimensions.

**B**BETTER FRUIT backs its confidence in public appreciation by spending its money to provide the best common sense fruit growers' paper in America.



# THE WALNUT—WHERE IT DOES BEST IN OREGON

BY GEORGE P. DEKUM, READ BEFORE THE MEETING OF PACIFIC COAST NURSERYMEN AT SALEM

I HAVE been invited to speak on the subject of the Walnut, a subject which I think of the very greatest importance to this Northwestern country.

I feel that I must first apologize for my temerity in preparing such a paper to be read before an audience composed of persons who are years ahead of me in learning and experience regarding all such subjects. One of the most eminent authorities in southern California

that the ground about the trees has not been cultivated for fully twenty years. Had that ground been properly cultivated, I am confident that the trees would be bearing heavier crops and been much larger in size. It was through watching the growth of these two beautiful trees that I became interested in walnut culture.

There is no tree that will respond to good care and, at the same time, no tree

purpose was the bench land, reaching from New Era in Clackamas County south to Gervais in Marion County. Before finally securing my Deepdene Farm near Aurora in Clackamas County, I procured a plumbers' augur, with which I bored into the ground from fifteen to twenty feet to test the depth and quality of the soil. Along the west side of my ranch flows the Pudding River, the banks of which in some places are eighty feet



GENERAL VIEW OF THE FAMOUS HOOD RIVER VALLEY, WITH MOUNT HOOD IN THE DISTANCE

admitted to me that the more he studied the subject of walnut culture the less he seemed to know about it, so the best I can do is not to give you advice, but to relate some of my experiences and present a few of my ideas.

I am often asked the question, "How did you become interested in this subject?" It was in this manner: About 1870 Mr. L. G. Pfunder, the well-known florist, took some nuts at random from a barrel and planted them in Portland on a piece of ground belonging to W. S. Ladd. Some of these nuts sprouted and grew to be fair sized trees. A few years later, when my father, Frank Dekum, purchased the home place on Thirteenth street, Mr. Pfunder, who planned and laid out the grounds, remembered these trees, transplanted two of them, which have grown to be immense, superb specimens. Some of the nuts were sent to Mr. Felix Gillet who, on examination, pronounced them to be of the Chili variety. They have been bearing bushels of very fair-sized and good flavored nuts for many years past. I know positively

that will as gracefully stand rough usage as the walnut.

One of these trees was badly damaged by the silver thaw that occurred during the winter. One immense branch was almost completely broken off and now hangs to the main trunk only by a mere strip of wood, yet this branch is fully alive and growing and has many nuts.

In walnut planting there are two very important items to be considered. The first and most important is, the right kind of soil, and the second is the right kind of trees from reliable nurserymen. The soil must be deep, and when I say deep, I mean it in the fullest sense of the word—at least twenty feet, no hard pan, good natural drainage and the water table not too high.

In the State of Washington I have investigated only in parts of Clarke County, and find some suitable land near Vancouver. In Oregon I have investigated lands in Multnomah, Yamhill, Clackamas, Washington and Marion Counties and finally came to the conclusion that the best land adapted to that

high. The nature of the soil was here fully exposed, but I wished to satisfy myself fully that the soil was of the same texture and depth on other parts of the land. The first few feet proved to be a sort of clay, then strata of clay, loam and sand. Before planting, I blasted a hole for each tree, first to overcome any difficulty that might occur in case there should be any hard pan, then too, it was a saving in the labor and expense of planting by the ordinary long, laborious method of digging the holes. At first thought it might seem a costly method, but it will not appear so when you consider that the holes should be four feet wide and about two and a half and three and a half feet deep. With somewhat compact clay soil, one can realize what it means to dig several hundred such holes, whereas by the blasting method, it is much simplified. The ground is also loosened to a considerable depth, thus giving the tap root a splendid chance to make good growth. The holes need not be bored over three or three and a half feet deep. The best auger to use for



making the holes for the powder sticks is one about two or three inches in diameter to which any blacksmith can attach a straight bar handle. By all means, do not bore and blast too many holes in advance. The blasting naturally leaves a slight depression; a rainstorm may occur and on account of this depression the water is liable to make the ground soggy and heavy longer than is desired, which might delay the planting of the trees. The best plan to follow is to plant each tree as soon as possible after the hole is blasted. It is also advisable to have ready at each hole a good-

found these facts proven on a visit to Southern California several years ago, where I noticed many of the old trees presented a very sickly, scraggy appearance, and was further told that many were dying of old age. In Europe this is not the case, and trees grow to be centuries old, and I have yet to find an old walnut tree in this Northwestern country that is not growing larger and healthier every year.

In cultivating with horses, care must be used in watching them, as they are very fond of the leaves and quickly ruin a young walnut tree. The trees should

between grafted fruit trees, where such grafted fruit trees had not grown large enough to cause much shade, the young walnut trees were much larger than those walnut trees that had been shaded too much by such grafted fruit trees that had grown large.

The French varieties are the only kind to plant in the Northwest, as they are more suited to this climate. The Santa Barbara tree should never be planted here, as it is very often nipped by frosts that are liable to come late in the spring. A great many failures have been due to the fact that the Santa Barbara trees have been planted instead of the French trees. Of all the French varieties I favor the Mayette, whereas many prefer the Franquette. There has been more or less controversy regarding the use of the American Black, the California Black and the so-called English, upon which to graft. This is a question which will not be settled on this Coast for some time. I very much deprecate the use of the California Black in the Northwest, as I do not consider it sufficiently hardy for this climate. About eight or ten years ago there was a very mild and open winter in the Willamette Valley. In the latter part of February or forepart of March it was succeeded by a very unusual cold spell—California Black walnut trees, three to six inches in diameter, in Woodburn, Oregon, froze to the ground, but started again from the root. The larger California Blacks froze only on the ends of the branches, and bore no nuts that year.

On April 14, 1906, I planted on my farm near Aurora, several grafted walnut trees and seedlings all grown on this Coast. I had hoped to plant them much earlier, but for many reasons was prevented from doing so. On account of a change in my plans, requiring the use of the ground for other purposes, I was obliged to take up these trees and plant them in another location. As is generally known, the first year there is not much growth made in the top, the main growth being confined to the roots. It was exceedingly interesting to note the root growth of the different trees, hardly any two being alike.

One large eight-foot Franquette grafted on American Black had made very little leaf growth at all; in fact, all

Continued on page 27.



VIEW OF CAMPUS OF THE OREGON AGRICULTURAL COLLEGE

The horticultural work at the experiment station of the college is being made one of the most valuable features of the institution

sized forkful of well rotted manure to mix with the soil in planting, but care must be used not to allow the manure to touch the roots or to come within a foot of the tree.

A Hood River apple grower recently told me that he blasted holes for his apple trees and found the scheme worked admirably. I have noticed that where large cherry trees are growing in the Willamette Valley, if walnut trees are found in the same locality, that they are usually of immense size, and show vigorous growth. All of the Oregon nurserymen have heard of, and many have seen the fine old cherry trees at Milwaukie, Oregon, and now so sadly neglected. It was in this village I found the largest English walnut tree I have seen on this Coast. It measured nine feet and four inches in circumference. Although it does not prove it, still it leads me to believe that land that grows good cherry trees should in many instances be suitable for walnuts.

Such soil as is found on the townsite of Portland affords ideal conditions for walnut planting. During the past two years, on account of the large buildings, a great many deep excavations have been made. I have personally inspected a great many of the excavations, and in every instance found the soil conditions almost ideal. One characteristic that is worth noting is that the old trees growing in the Northwest have a cleaner, brighter and healthier appearance than old trees I have seen in any other place. Mr. A. J. Wells, in an article in the Pacific Rural Press, states: "The experience of growers about Santa Barbara indicates that the walnut is a short-lived tree, and that several orchards in the Golita Valley were dug up because unprofitable from old age, yet they were scarcely thirty years old." I had previously

be planted never less than 40 feet apart, 50 feet is preferable and 60 feet is better still if the grower has land to spare. In driving alongside many of the orchards in California, I noticed that the trees on the outer edge were much larger, showing the advantage of the increased air space, even though it was only on one side. In Judge Lieb's orchard near San Jose, it was very noticeable that where his young nut trees had been planted



PACKING HOUSE ON HOOD RIVER FRUIT FARM



# CONVENTION OF NORTHWEST FRUIT GROWERS

VANCOUVER, BRITISH COLUMBIA, DECEMBER 4, 5 AND 6, 1907

FOR the past four years we have attended the meetings of the Northwest Fruit Growers' Association, which were held at Portland, Oregon; Boise, Idaho; La Grande, Oregon, and Seattle, Washington. Each of these meetings was productive of much good to the fruit growing industry, and we think wherever possible, it is the duty of every fruit grower to attend them. Matters are brought up at these meetings that have a much wider scope than those discussed before any other organization devoted to the interests of the fruit grower in the Northwest. It is expected through the association to secure reforms and betterments both in growing and shipping conditions, and the larger the attendance and the greater the interest shown the easier it will be to bring these matters to a successful issue.

Added to this is the fact that the meetings are very instructive, as the addresses and talks on the various subjects are of widespread interest, followed by a general discussion of a practical nature, and participated in by orchardists who are able and successful, and who tell of their discoveries and experiences for the benefit of their fellow growers.

The success of these meetings depends largely on the ability of the secretary, who makes all the arrangements, in addition to selecting the speakers and subjects for discussion. His success is limited or augmented by the results of his efforts among the townspeople where the convention is to be held and in various other ways. If the residents of the meeting city are enthusiastic over the fruit industry, helping hands are plentiful and the public subscribes liberally to defray the expenses and for the entertainment of guests. The interest displayed by the press is an all-important feature. Of course the amount of interest shown by the newspapers depends largely upon two factors, the importance of the industry to the local community and the ability of the secretary to furnish information about the meeting that will not only be of interest to fruit growers, but will also be of interest as news to the general public. The meeting at Portland was a good

one and well handled by the daily press, but no effort was made to provide entertainment for the visiting fruitmen, and no financial assurances given. But, it is fair to say that this was in 1904, and before Portland's industrial awakening.

Last year, however, Portland's fruit dealers awoke to the occasion and sincere thanks are due them for the success of the meeting of the Oregon State Horticultural Society and for the handsome

extremely cold and it was with difficulty that a hall was secured that was heated. But what surprised us most was that not a single announcement appeared in the papers as to where the meeting was to be held, and what was still worse was that the delegates were chased around to three different halls before they could hold their meeting. But, thanks are indeed due the commission men of that city for their interest, assistance and



MECHANICAL HALL, OREGON AGRICULTURAL COLLEGE

cups given. In Boise, in 1905, local fruitmen and public citizens were not much in evidence when the delegates arrived at the hotels. In 1906 the convention was held at La Grande and, although a small city, it acquitted itself very creditably in entertaining the meeting.

In 1907 the meeting was held at Seattle, and to the surprise of everybody, fruitmen and reception committees were not to be found at the hotels when the delegates arrived. The weather was

premiums furnished for exhibitors. The holding of local or state meetings at the same time the meeting of the Northwest Fruitgrowers' Association is held seems to us to be a mistake, for the reason that many cannot attend both meetings, and also that very few want too much meeting at once.

However, all these meetings have been productive of much good to the fruit-grower. They have put in motion plans that are expected to result in a number of better conditions generally. Mr. Maxwell Smith, Fruit Inspector for the Dominion of Canada, however, promises this year a better meeting than ever. He has taken hold of the coming convention to be held at Vancouver, British Columbia, in a masterly manner, coupled with his characteristic vigor and enthusiasm. He has already announced the program, which is handsomely gotten up and which, by the way, is the only one of this kind that we have ever had, being done in colors and executed in the highest style of the printer's art. It will not only admirably serve its purpose as a program for the meeting, but also as a souvenir to be taken home and kept as a memento of the occasion.

As for transportation, rates of one and one-third fare for the round trip have been secured and announced by the passen-



PAGE WOVEN WIRE FENCE COMPANY—BEST ORCHARD FENCE MADE. E. ESTES, MANAGER OF DISTRIBUTION, McMinnville, Oregon



ger agents of the railroads reaching every section of the Northwest territory. This is indeed a feather in the cap of the secretary of the association, as we have never before known just what rates we were going to get until we arrived at the convention, and at Seattle we did not get any at all.

Announcements are already out for the competitive fruit display, with complete rules governing entry in the form of an official circular. These entry blanks are rapidly being sent out, and those who have not received them can be supplied

fail to take this trip to see your Canadian cousins when you have the opportunity. Many of you have never been outside of the United States, and this will give you a chance at cheap rates to see Vancouver, a magnificent city, with the most beautiful parks and drives of any city in the Northwest. These alone are well worth the trip, to say nothing of the grand ride on the steamer through Puget Sound, the most magnificent sheet of water on the globe, to say nothing of the beautiful harbor of



FRUIT DISPLAY AT SALEM, OREGON, FAIR, SEPTEMBER 10-11

by writing to Maxwell Smith, Secretary of the Northwest Fruitgrowers' Association, Vancouver, British Columbia.

The first city to offer prizes for this year's fruit display was Seattle, whose commission men have given cups valued at \$700.

If you have ever met Mr. Maxwell Smith you will know what kind of a meeting and reception to expect at Vancouver. If you have not met him, the meeting being arranged by him will surprise you in point of hospitality, its fine program, practical talks and all around good time.

We do not think that any such beautiful trophies were ever before offered for a fruit display as those which will be given at this meeting. Just think of nine handsome medals, two of them gold, and valued at \$100 each, £20 in English money, two gold and silver medals valued at \$50 each or ten sovereigns in the coin of the realm; three "Birks" medals worth \$25 each, or five guineas, and some bronze medals, \$15 and \$10 apiece, worth three and two pounds respectively. This is assuredly a list of premiums worth while.

Is everybody going? Sure, yes, yes, yes. We are all going. Everybody must go. It will be the time of your life. Take your wife, and if you haven't one, hurry up and get one and take her for a wedding trip. Mr. Maxwell Smith will be there, everywhere, and your English cousin, Johnny on the spot, and will hold out the glad hand. Don't miss it if you have to walk and borrow the money of Maxwell Smith to get home. Don't

Vancouver, considered the most perfect on the Pacific coast.

The prospective program is as follows, with possibly some slight alterations:

#### December 4.

9 A. M.—Address, The President.  
10 A. M.—Roll call, enrollment of new members, etc.

11 A. M.—Judging exhibits. Exhibitors and public to retire.

2 P. M.—"Environment and Selection," J. R. Anderson, Victoria, British Columbia.

3 P. M.—"Cherry Tree Culture," A. I. Mason, Hood River, Oregon.

4 P. M.—"Small Fruits," J. W. White, Hammond, British Columbia.

8 P. M.—"Remarks re this Convention," The Secretary.

8:15 P. M.—Address of welcome, A. Bethune, Mayor, Vancouver, British Columbia; response by Dr. M. S. Wade, Kamloops, British Columbia.

Address of welcome, Hon. R. G. Tatlow, Minister of Agriculture; response by Judge J. H. Forney, Moscow, Idaho. Address of welcome, Hon. R. McBride, Premier of British Columbia; response by Hon. E. L. Smith, President N. W. F. G. A.

9:30 P. M.—Addresses by exhibitors in Class 3.  
10 P. M.—Judges' awards and presentation of medals.

#### December 5.

9 A. M.—"Some Experiments," Professor I. F. Henderson, Moscow, Idaho.

10 A. M.—(Subject to announce), C. N. Hickinlooper, View, Utah.

11 A. M.—"The Apple," Professor W. T. Macouan, Ottawa, Ontario.

2 P. M.—(Subject to announce), Rev. F. Walden, Seattle, Washington.

3 P. M.—"Graft Hybridization," W. J. L. Hamilton, South Salt Spring, British Columbia.

4 P. M.—"Transportation," E. H. Shepard, Hood River, Oregon.

8 P. M.—"Entomology," Dr. James Fletcher, Ottawa, Ontario.

9 P. M.—"Walnuts and Prunes," Col. H. E. Dosch, Hillsdale, Oregon.

#### December 6.

9 A. M.—(Subject to announce), William Cockle, Kaslo, British Columbia.

10 A. M.—"The Roll of Parasites," Professor E. D. Ball, Logan, Utah.

## St. Margaret's Hall

One of the best boarding and day schools for girls in the Northwest. Refined home influences. Best location. Beautiful grounds. A splendid new three-story addition during past year. Skilled faculty. Academic, preparatory, primary and kindergarten departments. Offers college preparatory course. Excellent advantages in music, art and languages. Sixteenth session begins September 5, 1907. Send for catalogue.

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W. C. ALVORD . . . Asst. Cashier  
B. F. STEVENS . 2d Asst. Cashier

11 A. M.—Reports, choice of next meeting place, election of officers, etc.  
2 P. M.—“Experimental Farm Work,” Thomas A. Sharp, Agassiz, British Columbia.  
3 P. M.—“Orchard Culture,” Professor W. T. Clarke, Berkeley, California.  
4 P. M.—“Apple Tree Pruning,” T. W. Stirling, Kelowna, British Columbia.  
N. B.—Of the time allotted for each subject, about half should be occupied by the opening address and the balance in discussion.

In addition to the ordinary program of the convention, there will be a competitive fruit display, and medals will be awarded as follows:

Class 1—For the best five boxes of apples, five varieties, first prize gold

reach the secretary not later than November 25. No entrance fee required.

All fruit for competition in Classes 1 and 3 must be put up in Canadian Government Standard Apple Boxes, measuring 20x11x10 inches inside. The most suitable material for these packages is clear spruce lumber, or similar soft wood, of the following thicknesses, viz.: ends  $\frac{3}{4}$  inch; sides  $\frac{3}{8}$  inch; top and bottom,  $\frac{1}{4}$  inch; and the top and bottom should be put on with cleats.

Exhibitors must provide stands and arrange their own exhibits in Class 2;



ANOTHER VIEW IN THE FRUIT SECTION OF THE STATE FAIR AT SALEM, OREGON  
Commencing at the bottom are apples, pears, peaches, prunes and grapes

medal, value \$100; second prize gold and silver medal, value \$50; third prize, the “Birks” silver medal, value \$25.

Class 2—For the best display of fresh fruit (any design of stand not more than ten feet high and occupying a floor space of not more than five feet square), first prize, gold medal, value \$100; second prize, gold and silver medal, value \$50; third prize, the “Birks” silver medal, value \$25.

Class 3—For the best box of commercial apples. Each exhibitor, or his representative, to have the privilege of addressing the convention and the judges for seven minutes on the merits of his exhibit and the district in which it was grown, first prize, the “Birks” silver medal, value \$25; second prize, bronze medal, value \$15; third prize, bronze medal, value \$10.

All fruit must be grown in the district from which it is sent for exhibition, but not necessarily all by the exhibitor.

The duty on exhibits from Washington, Oregon, Idaho and Utah will be paid from the funds of the association.

All exhibits should be sent, express prepaid, to Maxwell Smith, Secretary N. W. F. G. A., Vancouver, B. C., in time to arrive in Vancouver not later than December 2. They should also have the name and address of the exhibitor and the class number plainly marked on the end of each package.

All entries to be made on the forms furnished by the association and should

and all must be completed before 9 a. m. December 4.

Any fruit grower or Fruit Growers' Association in Oregon, Washington, British Columbia, Idaho or Utah, may compete for these medals.

Entry forms may be had on application to the secretary.

The membership fee of \$1 may be paid to the secretary between 10 and 11 a. m., December 4; any person is eligible for membership. A copy of the official report of the convention will be sent to all members.

## KENNEWICK SALES

**T**HE Hanson-Rich Investment Company, a leading real estate firm of Kennewick, Washington, report the following sales since October 1:

An improved ten acres on the Columbia River to H. Wolff of Baker City, Oregon, for \$3500; 20 acres in alfalfa in Section 7 to W. Von Neiderhausen of North Yakima, Washington, for \$5000; 10 acres three miles west of Kennewick, on Columbia River, to H. H. Clark of Bremerton, Washington, for \$750; 10 acres adjoining to W. D. Allison of Bremerton, for \$750; 10 acres of alfalfa two miles east of Kennewick to W. T. Ethridge for \$2750; 10 acres joining to George Hillsboro of Pendleton, Oregon, for \$2750; six Kennewick business lots to Contractor Otto Hanson of Spokane, for \$10,000; Kennewick Brick Yard to the Electric Supply Company, for \$5000.



## THE ORIGATION OF THE CODLIN MOTH

GEORGE W. TAYLOR, ORCHARDIST, MEDFORD, OREGON

THE origination of the codlin moth has been discussed pro and con for many years which, no doubt, many of you know, and any comment on it in this paper I think unnecessary. Our government in its annual reports claims a loss of many millions of dollars annually through the destruction by this pest. This being the case, I think it is necessary to carry on a series of investigations in order to ascertain the

paper and new paper as well, on the rafters and in the packing benches, old boxes and new boxes, old disordered water pails, cow bells and some in the nail holes of the horse shoes that had been tacked up in the packing house for good luck. In one packing house was found a piece of timber 2x4 in. and 6 ft. long, that contained 210 cocoons. Now, I would like to ask you how you can control the codlin moth when such con-



FINE DISPLAY OF FRUIT AT FAIR AT NORTH YAKIMA, WASHINGTON

habits of the moth in our various fruit districts. You will find in our valley that the blossoms come and are gone and the calyx closed before many moths appear. I think some hatcheries should be established in this Rogue River Valley so that the exact date of the first brood could be ascertained.

This paper was supplemented by one on spraying by Mr. Harris, superintendent of the Bear Creek Orchards, who has been my co-partner and to whom I am indebted for his aid in this study.

In searching, some 300 cocoons were found and used on the first brood, which were collected from the packing houses of the valley. Many were found in old

ditions as this exist in our valley? These cocoons were collected on May 16 and found in various stages of development. Many of the moths at this stage are destroyed by parasites which eat out the body and leave the cocoon with a hole in the side. You will also find about one-fifth of them die during pupation. The pupation period of the larva of the winter moth I have kept no record, as I thought it was of no interest to the fruit growers.

To carry on these investigations a tree was selected and enclosed by a large cage or house made of fine wire and wood work, the object being to give the moth all its natural conditions. In this cage or house breeding cages were placed with the cocoons in them, and as they hatched they were released in the tree and a record kept of each moth.

The following is a list of the moths as they hatched during the first brood, which may be interesting, as it shows when the largest number appeared:

May 22.....1	June 13.....1
May 27.....1	June 14.....1
May 28.....1	June 15.....1
May 29.....2	June 16.....2
May 31.....1	June 17.....3
June 2.....1	June 18.....3
June 3.....3	June 19.....20
June 4.....4	June 20.....3
June 5.....3	June 21.....1
June 6.....1	June 23.....11
June 7.....1	June 24.....1
June 8.....1	June 25.....1
June 10.....8	June 26.....2
June 11.....6	June 27.....1
June 12.....1	

## Life of the Moth

Ten moths were selected and placed in hatching cages and given all the natural advantages possible in order to get the

75,000

## SPITZENBERGS

Of grafts and buds taken from the famous Stewart orchard, President of Washington State Horticultural Society.

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Cumberland Black Cap Raspberry,  
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All best varieties of Blackberries,  
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Our specialties are APPLES and STRAWBERRIES, but we handle all kinds of fruits grown in this section, including Pears, Plums, Cherries, Blackberries and Raspberries. If you are a buyer write us. If a grower call and see us, or telephone Main 71.

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There are none better, and few  
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natural life of the moth. The following is a list of the 10 selected:

June 26 to 30.....	5 days
June 27 to July 2.....	6 days
June 28 to July 4.....	7 days
June 29 to July 6.....	8 days
June 30 to July 3.....	4 days
July 1 to July 10.....	10 days
July 2 to July 6.....	5 days
July 3 to July 8.....	6 days
July 4 to July 7.....	4 days
July 5 to July 10.....	6 days
Average.....	6 1-10 days

### Incubation of the Eggs

In from two to four days the moth deposits her eggs on the fruit and foliage of the tree. From close observation it will be found that many of the supposed eggs are only a coating the moth puts on

in the side. They work very fast and disappear in the apple in from two to five minutes. You will find that many of the side larvae enter where two apples touch or a leaf touches the apple. Many of them while traveling over the apple hunting for a place to enter select a spot of spray and this being rough gives him a good foothold. Many of them die on the surface of the apple and some get through and die beneath the skin. Many that enter the side return by the side of the apple and those that enter by the calyx return by the calyx and some by the side of the apple. By close observation, you will find that many wormy



A FINE ORCHARD NEAR GRANTS PASS, OREGON, OWNED BY EISEMAN BROS.

the surface to make the egg adhere to the surface of the fruit or foliage. I have watched the moth deposit her eggs and find that most are deposited late in the evening and very early in the morning, and perhaps during the night. The largest number of eggs deposited was 28, although this moth made 38 marks on the fruit and foliage, but only 28 contained an embryo. Twenty-four of these eggs hatched and the other four died in the egg. The following is a list of eggs selected, and it shows the period of incubation:

June 1 to 12.....	12 days
June 1 to 13.....	13 days
June 10 to 18.....	9 days
June 17 to 28.....	12 days
June 20 to 29.....	10 days
June 22 to 29.....	8 days
June 21 to 30.....	10 days
June 20 to July 3.....	14 days
June 28 to July 8.....	11 days
June 28 to July 10.....	13 days
Average.....	11 1-5 days

### The Larvae

During the last day of incubation the life of the young larva can plainly be seen through the shell of the egg by the aid of a good glass. The shell is composed of a white transparent gelatin-like texture. The young larva lie in a crescent shape in the egg and on that side of the egg is where the opening is made to release itself, when the egg is deposited on the foliage, which I find is the case in the forepart of the first brood. The young larva when released stops to feed on the foliage, which often kills him; others crawl direct to the apple and bore

apples, in which the larva has eaten, are inhabited by ants and a small black beetle. I examined 20 apples and found 18 destroyed by the above insects. The larva's life in the apple is somewhat varied, as the following will show:

June 8 to July 9.....	31 days
June 10 to July 10.....	30 days
June 10 to July 4.....	24 days
June 10 to July 6.....	27 days
June 11 to July 3.....	22 days
June 11 to July 6.....	25 days
June 18 to July 12.....	24 days
June 19 to July 5.....	16 days

### The Second Brood

The first moth of the second brood was deformed. The larva entered the apple on June 15 and came out on June 30, and hatched out on July 9. It had no legs and its body was deformed, but its wings were perfect. The following is a list of the second brood of moths:

July 9.....	1	July 25.....	1
July 17.....	1	July 26.....	2
July 22.....	2		

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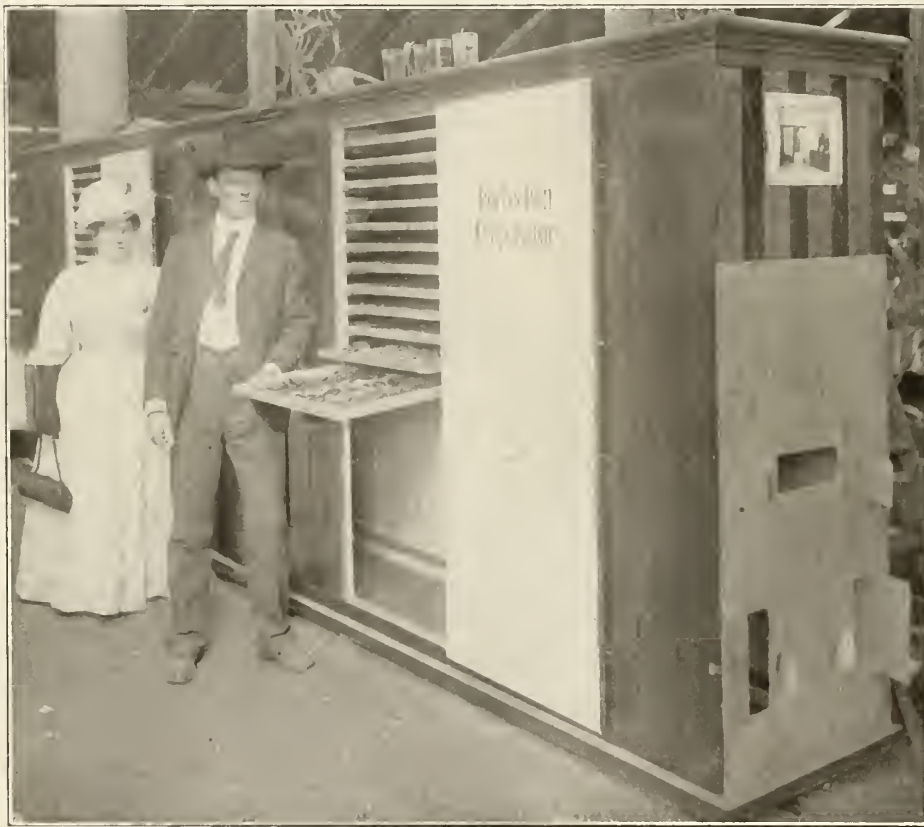
## DOUGLAS COUNTY AND ITS MANY RESOURCES

BY LUKE BARZEE

**D**OUGLAS COUNTY is almost a state within a state. It is the largest county in Oregon, west of the Cascades. It is as large as Connecticut, twice the size of Delaware, and equal to four Rhode Islands. It contains more than three million acres, half of which is practically untouched by the hand of development. Douglas County has twenty thousand people, or one for each quarter section of its soil. It can bountifully accommodate several per-

in realization, and its long, long sleep is nearly at an end. For, already, the invincible hand of capital is arousing the sleeping beauty into actual life that is only the initiative of her future intense commercial activity.

Progress and development depend upon capital, resources, opportunity and labor. The three last named, we have in abundance. What we need, and must have, is capital. Capital needs, and must have what we have. We are willing, and



FRUIT EVAPORATOR

One of the Attractions at the Grants Pass, Oregon, Fair, September 10-11

sons, where it now supports one. The prominent resources are timber, mineral, climate and soil. The active industries are fruit culture, poultry raising, hay, grain, hop growing, live stock production, mining and dairying. The standing timber alone insures great lumbering activities for many years to come. Great wealth of mineral lies sleeping and undisturbed within our borders.

The climate is such as a practical man might have made to order, were the opportunity given. The soil is varied and resourceful. Statistical facts show that Douglas is both the warmest and earliest portion of the great Oregon domain.

We have a number of manufacturing plants in the county; but, all conditions considered, there is a sad lack of those wealth-producing requisites. Millions of dollars are anxiously awaiting investment in just such opportunities as our great big Douglas has in plenty for all. Poultry raising and fruit culture offer especial rewards to the promoters; but the industries are only in their infancies.

Our beautiful Douglas has slept for thousands, perhaps millions of years; it has been left in quiet to measure, in undisturbed dreams, its future possibilities; but its dreams are about to be lost

ready for the marriage; how about you, Mr. Capital?

And then we have a true queen of this resourceful land, the beautiful city of Roseburg, situate upon the banks of the scenic Umpqua. A growing capital of a growing empire, keeping accurate pace with the progress and needs of the county, the state, and the whole West; a city of three thousand five hundred people, already containing ten churches, fine schools, United States Weather Bureau station, United States Land Office, Soldiers' Home, Fruit Growers' Association, flouring mills, sash and door factories, creamery, broom factory, packing house, newspapers, banks, electric light, power, water and sewer systems, good people, and beautiful homes.

There are no inflated prices put on our city or country property, and a true welcome is given to all strangers who may desire to come among our people.

**B**BETTER FRUIT is doing pioneering work educating the fruit grower to a realization of the demand for better fruit, and is rapidly inducing every fruit grower to subscribe to "Better Fruit," grow better fruit and pack better fruit and get better prices.

## Underwood and Little White Salmon Choice Fruit Land for Sale

I have a number of choice places for sale, improved and unimproved. Some with good heavy timber, ranging in price from \$18.00 to \$100.00 per acre. Some vacant land and relinquishments

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sale in Hood River,  
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We have no agents. Prefer to sell direct to customers. A saving to them of 30 per cent. Further, when you deal direct with the nursery, you are sure to get varieties true to label. An agent works for the commission. We are for your good will, and a reasonable profit on sales. Many agents fill their orders and ship personally. When their nursery is out of varieties ordered, what happens? Isn't it natural for an agent to try and save the commission, part of which has been paid him? Send for our price list.

**SOUTHERN OREGON  
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Growers and shippers of Famous  
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Cherries, Grapes, Berries and  
Melons to long distance markets.  
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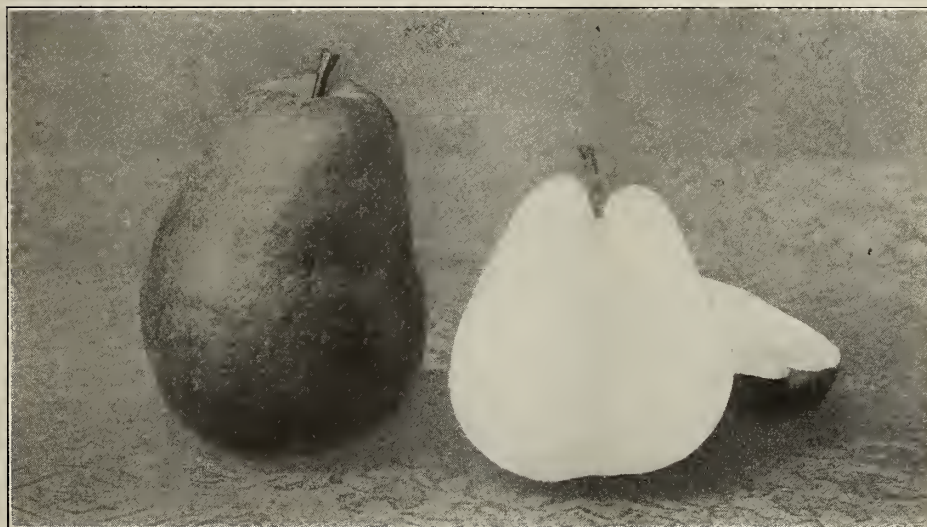
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PUYALLUP, WASHINGTON

## A SEEDLESS AND CORELESS PEAR DISCOVERED BY AN ORCHARDIST OF HOOD RIVER, OREGON

**A** SEEDLESS and coreless pear recently discovered by A. I. Mason, one of Hood River's best known orchardists on his fruit farm has caused widespread interest among horticulturists who have seen it, and all attempts so far to account for its seedless and coreless state have proved unavailing. The history of its discovery is interesting, inasmuch as it was made by accident while the fruit was being

untrue to name, and for this reason it will be difficult of identification. It is thought by nurserymen and others who have examined the pear, however, that whether it proves to continue to be seedless or not, Mr. Mason has made a valuable discovery on account of its fine quality, and that it bears later than the early varieties of this fruit, and earlier than the late varieties, maturing about the first of October. Unlike most seed-



prepared for canning. It was first thought by Mr. Mason, whose attention was called to the seedless condition of the pears, that but one or two of them were without seeds and that they were in the nature of freaks. It was found, however, that the entire output of the tree, which was six boxes, were entirely seedless, and that in some unaccountable way a horticultural wonder had been produced.

The pear was originally supposed to be of the Clapp's Favorite variety, but it has since been stated by experts who have examined it, to be of a variety so far unknown. The tree was bought by Mr. Mason with a large consignment of other nursery stock several years ago, some of which afterward proved to be

less varieties of deciduous fruit, it is large in size, of fine quality and if its yield this year can be taken as a criterion, is a heavy bearer. As large as the Bartlett, when ripe it turns a deep yellow and has a delicate odor. Samples of it have been sent to nurserymen and pomological experts and an effort will be made to trace its variety and discover if possible its history. Considerable interest is already exhibited as to what the tree will bring forth next year, and should it continue to bear seedless and coreless pears Mr. Mason is thought to have made not only a wonderful, but a very valuable discovery in horticulture. The tree is five years old and previous to this year bore so slightly that its yield was of small consequence.

## COLORING AS MUCH A NECESSITY AS FLAVOR IN WINNING OF PURCHASERS FOR OUR FRUIT

BY H. E. VAN DEMAN

**O**NE of the chief attractions of the fruits that are sold on our markets and that wins purchasers for them at good prices is their color. A fruit may be very good in flavor, but if it is not attractive to the eye, it is not likely to sell nearly so well as one of poorer quality that has been more decorated by nature with beautiful coloring. Usually the more brilliant the colors, the more ready the sale. Most customers buy largely with their eyes. Contrasted colors on the same fruit are more attractive than solid or plain colors. Peaches with rosy cheeks always find readier sale than those without them, even though the ground color be good. Striped or blushed apples sell better than those which are plain yellow, red or green. Two or more colors formed by nature, side by side, always harmonize, although they may be quite different. We need

not study how we may make them appear beautiful, for nature will take care of that important matter. Our effort should be to understand how to help nature lay on the colors.

There are several things necessary to the natural coloring of fruits, among which are moisture, heat, light and the proper elements in the soil and in available forms. Indeed, nearly all plant growth depends on all these being supplied in abundance. The growth of mushrooms in perfect darkness is an exception to this rule, and they have almost nothing to recommend them but their nitrogenous flavor and food value. The action of the sun is the most potent factor in elaborating the elements and thus developing the desirable qualities in our fruits.

There are great variations of these elements and conditions as they are found



in nature, and they bring about very different results. In dark and cloudy regions fruits are far less highly colored than where the sun shines brightly. This is one of the reasons why apples and other fruits of the Rocky Mountain region and the Pacific Coast are so beautiful. The climate is arid in its character, especially during the growing and ripening seasons, and the purity and dryness of the air, combined with almost steady sunshine, are just the conditions needed to bring out the most brilliant

depleted and are sometimes naturally poor in certain elements. Experience has taught us that we must replenish where and when there is need. The general health and vigor of fruit bearing trees and plants must be maintained, if the best results are to be obtained, but without the proper balance of plant rations, as well as normal conditions, this cannot be. Lime is often needed and so is potash, phosphorus and a few other minerals. Fortunately, iron, which is one of the most essential of the coloring prop-



ONE HUNDRED AND FIFTY THOUSAND POUNDS OF FINEST ROYAL ANNE CHERRIES IN THE WAREHOUSE OF THE ALLEN FRUIT COMPANY AT EUGENE, OREGON

and also the most delicate coloring to be found on any fruit in America.

But it does not matter how pure the air may be, nor how much sunshine, if the proper elements are not in the soil, from which the coloring matter may be extracted. There are several minerals that are absolutely essential to the coloring of the fruits. Among these are iron, magnesia and potash. It is beyond our ability to fully understand how these elements are so elaborated by the organs of the different trees and plants, as to give the wonderful and variable color effects. From the same soil and under the same climatic conditions one is red, another white, and still another blue. It is all due to the mysterious alchemy of plant life. Without the crude elements from which pigments are extracted, the water in which they are dissolved and carried throughout the entire system, the heat to facilitate the action and the actinic rays of the sun to deftly separate and recombine all these materials, there would be no beautifully colored fruits. They are all needed and all work together harmoniously to produce the results that we so much admire and enjoy.

But, as has been said, all the necessary materials and conditions are required. In most cases, especially where the soil has not been long cropped, there is a sufficient supply of plant food and in available form for all needs of the developing crops. The granitic and volcanic soils of the West are unusually rich in the mineral foods, but these may become

erties, is usually contained in all arable soils in sufficient quantities and in available forms. Potash, which has a great influence over the perfection of both the flavor and the color of fruits is, unfortunately, not nearly so generally present in abundance or not in available forms. There is no plant food that is applied to fruit crops with such beneficial effects as potash. This is best derived from the several commercial forms, such as muriate or sulphate of potash. Some fruit growers say that potash is the paint that nature uses to make her colors. Whether this is true or not, there is no doubt that we can materially add to the marketable value of our fruits by supplying available potash to the soil in very many cases. An application of 200 pounds per acre of either muriate or sulphate is almost sure to help any orchard or other fruit plantation. Try this for a few years, along with other plant foods and good tillage, and notice the results. Certain trees should be left without the potash to show the contrast.

Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., that the people can depend on getting the most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible; try it.

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HOOD RIVER, OREGON

## THE BRITISH COLUMBIA FRUIT AND PRODUCE EXCHANGE REPORTED TO BE A GREAT SUCCESS

**W** J. BRANDRITH, of Ladner, Secretary of the British Columbia Fruit Growers' Association, in speaking of the Fruit and Produce Exchange formed by the growers of British Columbia, in a recent interview, says of it:

"In order to make this quite clear to everyone I will tell you all about it. The exchange was inaugurated on the 29th of June last at a meeting held at Revelstoke, to which each Fruit Growers' Association was asked to send one delegate. A few of the associations were not represented, among them being Victoria. It seems that the notice calling the meeting was not received by the local secretary. The officers were elected as follows: President, James Johnstone; vice-president, H. E. R. Smythe of Revelstoke; directors, J. W. McCallum, M. S. Wade of Kamloops, P. H. Wilson, Chilliwack, and the secretary-manager is L. M. Hagar, whose office is at Revelstoke.

"The exchange is composed of representatives of local associations already formed and at present the Kootenay, Revelstoke, Kamloops and Chilliwack Fruit Growers' Associations, and the Salmon Arm Farmers' Exchange are the only ones represented. The head office is in Revelstoke, which is considered the most central point. Its agents cover the whole of the prairies north of the boundary line, and keep the central office advised as to the condition of the fruit and produce market. Orders are sent to the head office direct and it distributes them to the centers where they can be best filled. The object of the exchange is to provide the best possible market for the growers, to prevent competition among themselves, with the consequent cutting down of prices, and to see that the produce is properly distributed over the country supplied. Individual associations cannot do this, for they do not keep in touch with each other. When the distribution is done individually each may ship an order, let us say, to Calgary. The result will be that the Calgary market will be very much over supplied, while some other part of the country gets none. When the distribution is done through one center, the manager sees that too large a quantity is not sent to one center and there is then no fear of a glut in the market. There is also a great saving in travelers' expenses, for by this method six men can cover the ground that otherwise it would take twenty to thirty men to do.

"In order to join the exchange it is necessary for the local association to

subscribe for one \$100 share for each twenty members, or part thereof. The shares are not fully paid up but are subject to call. It is proposed that the price of the shares shall be increased to \$1,000, and it is likely this will be carried into effect at the next general meeting."

It is Mr. Brandrith's opinion that most of the fruit growers of the province will join the association. When asked what he thought of the Victoria Fruit Grow-



ADMINISTRATION BUILDING, OREGON AGRICULTURAL COLLEGE

ers' Association coming in, he said that they must either join the exchange or enter into competition with it. As the exchange already controls three-fifths of the output of the province, and the members can supply every kind of fruit, they will prove formidable antagonists.

The associations which have not yet joined the exchange are: Victoria, Maple Ridge, Mission City, Armstrong, Vernon, Kelowna, Peachland, Summerland and Penticton.

Speaking of the fruit and farming prospects generally, Mr. Brandrith said he thought it foolish for any one district to set itself up as being better than any other. While in his district they could raise the best Gravenstein apples, in Victoria the pears, prunes, and cherries could not be beaten, especially the first mentioned. He did not think there was a better place in the world for pears than the south end of Vancouver Island.



## BETTER FRUIT HOOD RIVER, OREGON

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST OF UP-TO-DATE PROGRESSIVE FRUIT-GROWING & MARKETING. ALL COMMUNICATIONS SHOULD BE ADDRESSED AND REMITTANCES MADE PAYABLE TO THE BETTER FRUIT PUBLISHING COMPANY

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W. H. WALTON, ASSOCIATE EDITOR  
CHRIS GREISEN . . . . . SOLICITOR

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at the post office at Hood River, Oregon, under  
the act of Congress of March 3, 1879

THE fruit display at the Oregon State Fair at Salem this year was noticeably a good one, as there was fine fruit and plenty of it. Apples, peaches, pears, grapes and prunes were well displayed both on plates and in well-packed boxes. The pyramid exhibit arranged by an expert who had charge of a fruit display at the St. Louis Exposition, was both a novel and beautiful sight and attracted much attention. The larger part of the display was from the Willamette Valley, where fruit matures somewhat earlier than in other sections of the state, and was not as highly colored as would have been the case had the fair been held somewhat later. As a stimulus to the agriculturist and fruit grower, we believe that both state and local fairs are productive of much good and should be given the support of exhibitors and the public as well. That urban residents are realizing this seems to be true from the fact that the State Fair was the most successful and best attended this year that has ever been held.

WHILE the present season is marked in many districts with a light yield, and in some has been almost a failure, the quality of the fruit and improved condition of Northwest orchards offers much in compensation. From all sections come reports of improved conditions, due to more thorough spraying, better methods employed and a united effort to raise quality rather than quantity.

THE capture of the cup offered by "Better Fruit" for the best commercial pack of apples at the State Fair by the R. H. Wallace orchards of Salem, indicates that Willamette Valley's claim that it is the home of the "big red apple" may not after all be very far out of the way.

IN our list of reliable fruit buying firms published in the October issue we unintentionally omitted the name of Templeton & Graham of Portland. We again publish the list this month for the benefit of our readers who are shipping fruit.

THE Grants Pass, Oregon, fruit fair, illustrations of which are published in this issue, was successful beyond the expectations of its most sanguine friends and was a revelation not only to visiting fruitmen, but also to residents of that section. Being situated in the northern end of the Rouge River Valley, Grants

Pass has been for some years the center of a large mining and timber industry, and the fruit industry to which it is admirably adapted, has been neglected. While a great many residents there have been raising good fruit in a small way, they apparently did not recognize what a fine fruit country it really is until recently. During the past year a few growers interested in the fruit business there concentrated their efforts and by hard work succeeded in raising a sufficient fund to justify them in holding for the first time a fruit fair. The display made was one that would have been a credit to any section and it is safe to say did wonders to awaken interest and enthusiasm in the fruit industry in that section. There were many fine exhibits, the most notable, however, being the display of grapes made by the Carson vineyards, which emphasized the fact that the Southern Oregon grape is not surpassed for quality and that its commercial possibilities are unlimited. The display of apples, peaches and pears was also excellent. The wonderful transformation that has taken place in the

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We find that a great many people engaged in various vocations in large cities are taking "Better Fruit" with a view to getting posted on the fruit business, with the ultimate object of engaging in fruit growing. There are many reasons for this. Some desire to give up the never ceasing grind of city life, while some who have good positions and some money laid by realize that employers will not run hospitals, and if they do not provide a sure income for themselves they may be laid on the shelf with no job. For this reason many are seeking knowledge with the object in view of getting an orchard started, which in later years will afford both a living and a home.

These people are above all entitled to reliable information and we are going to try to furnish it. So we say to you, such information as we may give about yields before passing our censorship must, as far as our judgment goes, be reasonable.

Five hundred to one thousand per acre is a big yield, yet frequently yields do go from \$1,000 to \$2,000. Some Medford pear returns will show \$1,250 per acre, large indeed, and some pear orchards in that district will probably do even better. These yields are based on Bartlett and Winter Nellis sales of \$2.50 per box, which is a big price, but reasonable for all that.

Some time ago we saw in one of the daily papers the statement that an apple orchard this year would yield \$12,000 per acre. Figure it out. A hundred acres would yield \$1,200,000. Then ask some apple grower who has been in the business for five or ten years about it. A statement of this kind is not only untrue, but it is ridiculous.

BETTER FRUIT was the originator of the modern type of fruit growers' journal: original in name, new in make-up, with original articles and practical illustrations, and by virtue of other improvements in other details, is approved by the grower for its individuality.

Portland, Ore., Oct. 21, 1907.  
Mr. E. H. Shepard,  
Publisher "Better Fruit,"  
Hood River, Ore.  
My Dear Mr. Shepard—  
I have before me the October number of your "Better Fruit." I have watched the growth of "Better Fruit" from the first issue to date. You have made "Better Fruit" "Best Fruit" by your liberal treatment of all sections of the Northwest. As an advertising medium the Northern Pacific says, "Well done." We know what we are talking about, as we have used the columns of "Better Fruit" from the first to the last issue, and will continue to do so for the very good reason that the result is "Better Fruit" to the Northern Pacific. Wishing you Better and Best success, I am,  
Very truly yours,  
A. D. CHARLTON,  
A. G. P. A.

orchards of Grant's Pass during the past year is placing that section in the front rank as a fruit growing section, and the few energetic residents there who have brought it about are truly deserving of much credit.

IN THE conception of "Better Fruit," our first thought was reliability. We believed that the orchardists wanted a paper that would give them reliable methods, and information that could be

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HOOD RIVER, OREGON  
AND GLENWOOD, IOWA

## PERSONAL PARAGRAPHS OF FRUIT GROWERS

**L.** S. COFIELD, the well-known fruitman of Paonia, Colorado, was here during the month looking up Hood River packing and shipping methods. Mr. Cofield has had wide experience in the fruit business and believes very firmly in the superiority of the Colorado country for some varieties of apples and as a peach growing territory. While that section, like many others, suffered severely this year from late spring frosts, the big returns there from fruit make it one of the best in the great West and Northwest sections. Nowhere does the Alberta peach attain the perfection of quality and keep that it does at Paonia. Like others, Mr. Cofield found that the Hood River grower and shipper is always willing to impart his knowledge, and stated that he regretted his stay here was limited.

A recent visitor at the office of "Better Fruit" was G. C. Kinsman of Decatur, Illinois. Mr. Kinsman holds a responsible position with the Wabash Railroad Company, and last year joined the ranks of Hood River fruit growers by purchasing a ranch near this city. On his trip West this year he was astonished on arriving at Hood River with an offer for his ranch of \$5,000 more than he had paid for it. He states that at first he was tempted to sell it, but before doing so he asked to be allowed to make a tour of the other fruit growing districts. On his return he refused to part with his Hood River property, saying that he was so impressed with the great future of the fruit industry that even at the great increase offered he was satisfied to await events.

B. B. Schakleford, the well-known horticulturist, called at the office of "Better Fruit" during the month. As everybody who reads the horticultural papers knows, he has contributed many interesting and valuable articles about fruit growing to them, and while here in the interests of the Western Union Telegraph Company, by whom he is employed, also made a study of the fruit industry.

O. W. Butts, one of Omaha's best known fruitmen, was at Hood River recently. Mr. Butts is directly interested in the fruit growing business at Hood

River and believes that high grade fruit will always command a good price. Having handled shipments of Hood River strawberries for a number of years he is desirous of having better shipping facilities established between the coast and the big Middle West city, and while here primarily for the purpose of buying apples, also made arrangements for handling berries to better advantage next year.

William Bittle Wells, the well-known manager of the "Sunset" Magazine, may soon be reckoned among Hood River's fortunate fruit growers. Mr. Wells, like many other Portlanders, is much taken with the attractions of Hood River, not only from the viewpoint of the prospective fruit grower, but also as a place to make a summer home. On a recent visit to our office while at Hood River, he stated that he was much pleased with the outlook for the fruit industry here and might be tempted to invest. We learned through him that "Sunset" is rapidly filling a wider field and growing in circulation and popularity.

W. Bradford Lanhan, a graduate of the Agricultural College of Missouri, having heard of the excellence of Hood River's methods of packing fruit, spent a number of days here recently in making observations. Mr. Lanhan is not of the kid glove variety of horticulturists and was anxious to secure work as a packer in order to learn how to pack fruit by actual experience. During his stay he visited many orchards and walked and rode many miles to secure the information he was in search of. He is but one of many others who have been at Hood River on a similar mission this year, and who have said their pilgrimage was well worth the trouble.

Falling in line with other big apple handlers, William G. Haley, of the firm of Haley & Lang Company, of Sioux City, Iowa, recently made a visit at Hood River. Mr. Haley is very much taken with the Northwest fruit country and spent considerable time here looking over the orchard situation. From here his itinerary included the Southern Oregon, Wenatchee and Yakima districts, where he went for the purpose of becoming informed as to their advantages.

## WHERE THE WALNUT GROWS BEST IN OREGON

Continued from page 16.

those grafted on American Black had made very poor root growth. Those grafted on English roots had done splendidly, and all lived, while some of those on American Black had died. The trees on American Black suffered from one disadvantage, however. They were in ground that had been in sod for years, and the sod was still within three feet of the tree. I had not previously blasted the holes for these trees. Considering the lateness of setting out the trees, the unusually long hot, dry spell, and the hurried and shallow planting, it is a wonder that they lived at all.

One great advantage in favor of the walnut is that it does not need the incessant care required by the different fruits and berries. Naturally there should be thorough cultivation, but it is not necessary to be continually spraying, pruning and thinning as is the case with apples and pears. The harvesting of the crop is also a much simpler and inexpensive undertaking. In the Willamette Valley the average farm consists of about 100 or 150 acres. If the land is suitable, at

least twenty acres should be devoted to walnuts. For the first few years the land need not lie idle, but can be planted to different crops. I do not think the planting will be overdone, at least within the next 50 years. The demand for walnuts is increasing faster than the supply.

Anyone who sets out now, and cares for an orchard of 20 to 100 acres, will in time have a splendid competence.

AT THE farm carnival held at Gold Hill, Oregon, recently, the displays of grapes grown on the hill lands near there was a revelation to many of the visitors, especially as many of the specimens had not been irrigated. Mr. L. E. VanVliet, one of the most successful exhibitors at the Lewis and Clark fair, captured first prize for Flame Tokays, and also several varieties of apples. The successful growing of grapes on the hill lands at Gold Hill is expected to stimulate the grape industry in that neighborhood and result in turning them into vineyards.



## IRRIGATION IN NOTED BITTER ROOT VALLEY

**T**HE National Irrigation Congress, which met in Sacramento, Cal., last month, attracted great attention from all thinking agriculturists and the outspoken personal interest of President Roosevelt in this great gathering has brought into timely prominence the entire subject of reclaiming the boundless leagues of arid, yet potential lands in the great West. It appears therefore particularly appropriate that this present time should be chosen by the Bitter Root District Irrigation Company to

apple have appealed strongly to epicures of the entire world, with the result that it sells at a higher price than any other. Many instances are on record where a single acre planted to the Red McIntosh apple has netted its owner from \$500 to \$1,000, and in some instances even more. A marked peculiarity of this valley is the fact that it is entirely free from insects of all descriptions. Fruit is grown absolutely free from blemish and a wormy apple is a thing unknown. The value of the crops which can be produced on one

acre of irrigated Bitter Root Valley land is almost startling to a farmer accustomed to dry farming, yet there are authentic records to show that one acre of land has produced in this wonderful valley a sum of \$2800.

Other authenticated returns are: Wealthy apples, per acre, \$500; McIntosh apples, \$1000; strawberries, \$500; Transcendent crab-apples, \$1000; plums, per tree, \$7.50; pears, \$1700; potatoes, bushels per acre, 500; wheat, 55; oats, 125; hay, tons per acre, 4.

The Bitter Root District Irrigation Company is composed of a syndicate of prominent capitalists of Chicago, gentlemen of the highest standing in the commercial world, whose holdings in the Bitter Root Valley amount to a princely domain of virgin land most unusually located as to desirability and of unsurpassed capacity as to productiveness. Their land is in the Bitter Root Valley, lying on the eastern side, and extending northward from Lake Como to

within seventeen miles of Missoula, the metropolis of Western Montana. The soil is absolutely virgin, unusually rich in the essential elements of plant life and there is no stumpage to clear. The vast irrigation works of this company, the largest project of the kind in Montana, provide for and guarantee a water supply of at least 30 inches per acre, and the supply is unfailingly regular and perpetually inexhaustible. The source of water, Lake Como, is supplemented by an enormous reservoir which stores enough water to provide for any possible emergency or contingency which might endanger or withhold the normal source.

The land which is soon to be opened for settlement in this wonderful valley is immediately adjoining irrigated lands which have been under cultivation for many years, as irrigation was first introduced in this valley some 40 years ago. The inception of this vast plan to open for settlement this vast tract of irrigated land had its origin in the mind of the famous and lamented Marcus Daly, who



CAUTHORN AND OLD ALPH HALLS, OREGON  
AGRICULTURAL COLLEGE

make announcement regarding the completion of their extensive project and to intimate that their land is now ready for purchasers, the page advertisement of the company being printed elsewhere in this issue.

The land in the Bitter Root Valley is undoubtedly the most fertile and productive of any of the well-known valleys of the fruit region, and when irrigated is capable of producing an astonishing revenue, as is proven by land in this valley, which has long been under cultivation and which has made its owners rich and independent. The Bitter Root Valley is perhaps the best known of the high-class fruit regions of the West. The superlative quality and the unprecedented quantity of the fruit grown there has long been famous, and especially so in regard to apples, of which many varieties have there reached a pinnacle of perfection not elsewhere approached. It is in this valley that the McIntosh Red reaches its highest development. The lusciousness and keeping qualities of this

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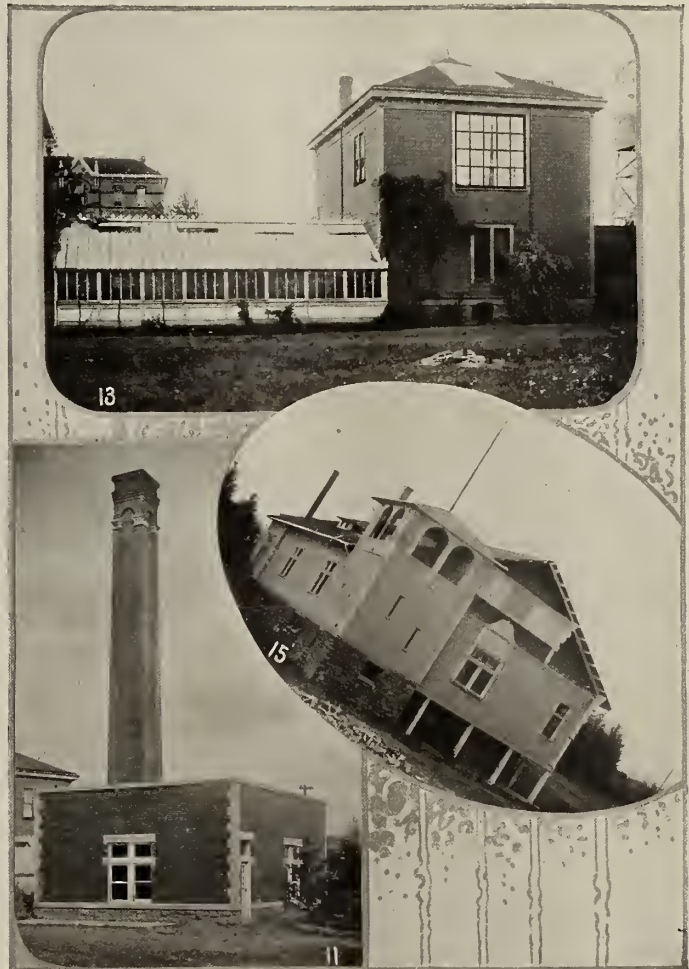
many years ago chose as his permanent home a tract of 28,000 acres of land immediately adjoining the Bitter Root Valley District Irrigation Company's property. This immense ranch Mr. Daly called the "Bitter Root Stock Farm," and by irrigation developed it into one of the most famous and profitable tracts of land in this country. He devoted a great deal of time and expended vast sums of money in raising thoroughbred horses, and his victories on the turf have made undying the name and fame of Marcus Daly and the Bitter Root Stock Farm. The ten-acre tracts which this company offer are all laid out to front on a main highway with branch roads leading to each farm. The ground is bench land and slopes gradually in the direction of the Bitter Root River, thus insuring perfect drainage.

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opportunity to begin modestly and surely and to gradually accumulate is here ready for the man of energy to grasp.

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THE September packing number was a great success, at least we are justified in this conclusion on account of the great demand for extra copies. Big growers, shippers and associations are sending in orders, so as to get a copy for packers in their employ. They must consider it good or they wouldn't send their money for it. "Better Fruit" was the first paper to publish a complete and fully illustrated paper on packing apples in boxes.

BETTER FRUIT knows the folly of lowering its high standard for which the reputation has been established, and it knows that in a month, a year's work or a lifetime reputation may be lost.



## LATEST METHOD FOR THE EXTERMINATION OF THE DESTRUCTIVE CODLIN MOTH BY SPRAYING

BY L. D. HARRIS

AT THE recent meeting of the Oregon State Horticultural Society at Medford, L. D. Harris, orchardist for C. H. Lewis, one of the large and most extensive growers of fruit near Medford, read a paper on the codlin moth that attracted much attention. Mr. Harris's contention is that two sprayings if properly applied will eradicate this great enemy of the fruit grower and he tells in the article below of his experiments to this end, and why he thinks so:

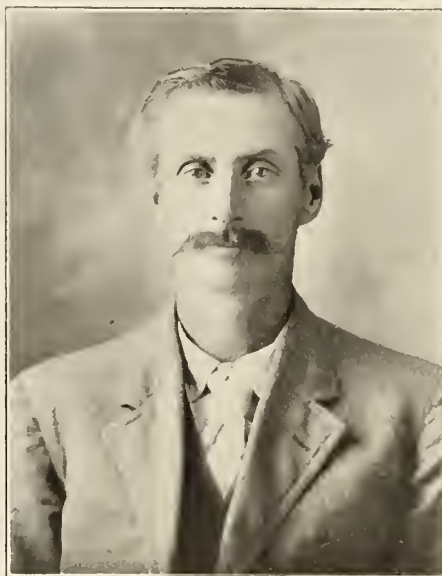
"In presenting this paper for your consideration, gentlemen, I am fully aware that my conclusions will strike some of you as being a radical departure from the accepted ideas in regard to the best methods of fighting the codlin moth, as I shall endeavor to show you how this pest can be entirely exterminated by spraying only for the first brood, after the calyx of the fruit is closed, and the preliminary spraying and the spraying for the second brood done away with entirely. That this can be done I have thoroughly demonstrated, and for that reason I wish to impress upon you the fact that all of my conclusions have been reached by actual experiment, and thorough investigation of the habits of the moth and the accepted methods of fighting it.

"These investigations have been made possible through the facilities afforded by Mr. C. H. Lewis, the proprietor of Bear Creek Orchard in this valley, who, with his usual interest in everything affecting the welfare of the horticulturist, has placed at my command every opportunity and appliance required for this important work. The investigations were prompted by the fact that my observations, during my work as a practical orchardist, had led me to believe that the early sprays were unnecessary, and realizing the importance of demonstrating this fact, if possible, I began a close study of the habits of the insect. In order to facilitate this study, a cage was constructed, enclosing an entire tree, so that natural conditions might prevail. Moths were gathered from several of the packing houses in the valley, and some 300 cocoons were placed in the enclosure, in individual cages to facilitate examination, and released into the larger cage as they emerged into perfect insects.

"The first result of this investigation was to establish the fact that the life cycle of the first brood was from May 22d to June 27th; during the first 17 days only single moths or two or three moths were hatched daily, but on the 19th of June, the maximum of 20 per day was reached. After this date, the daily hatching became less until, at the close of the period, but one or two were hatching per day. It is important to note the opening and closing dates of this period, as well as the time of maximum hatching. These dates may vary from year to year, but can be easily ascertained, as they bear a fixed relation to the date of the blooming of the trees, the date of the hatching of the first moth being from 20 to 30 days after the petals have fallen. This is the period given by all accepted authorities on the subject, and allows the apple to attain a size of from 3-4 inch to 1 1-2 inches in diameter.

"Observation further disclosed the fact that all of the earlier moths deposit their eggs on or near the side of the

apple, and not in the calyx as is sometimes supposed. This is rendered necessary by the manner of depositing the eggs, which requires more surface than is accessible to the moth at the calyx of the apple. The gelatinous matter by which the egg is enabled to adhere to the apple during the period of incubation naturally prevents the development



W. D. INGALLS,  
Of North Yakima, Washington. President of  
Pacific Coast Nurserymen's Association

of the skin of the fruit under it, and this tender spot in the skin affords the larva an excellent point for entrance into the heart of the fruit. It is also evident that the skin of the fruit at this time has received no protection from the early spray, as at the time of early spraying the fruit is not yet formed. The early spray is therefore no protection against these first larvae.

"Later in the life of this first brood, most of the eggs are deposited on the leaves of the trees, and the larvae are compelled to seek entrance to the apple as best they can. The toughness of the skin at this latter period naturally compels the larvae to seek some easier entrance, and the result is the attack on the calyx. It should be clear to everyone, however, that the larvae cannot penetrate the segments of the calyx, after it is closed, without also penetrating the poison with which it is covered, and, of course, if it is not completely closed, the same aperture which admits the larvae, has previously admitted the insecticide, at the last spraying, so that the larvae are killed in either event.

"There seems to be no dispute as to the fact that the best spray material for fighting the moth is arsenate of lead. This fact, I believe, is universally accepted. Personally, I have had the best results with Swift's arsenate of lead, and although other varieties may be as effective, I have no hesitation in endorsing this particular brand. The proportions of the mixture which I recommend are 3 pounds of arsenate of lead to 50 gallons of water, as a minimum allowance of poison to the mixture, and unless the user is experienced in the application of insecticides I should recommend a stronger mixture,



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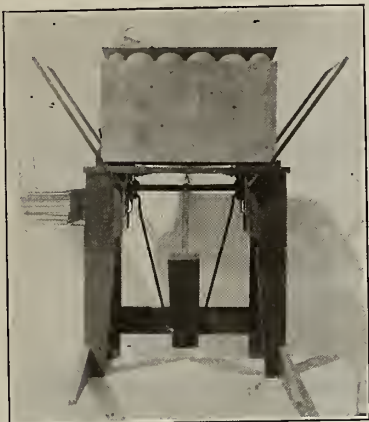


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as increasing the strength of the mixture does not endanger the foliage of the trees as is the case with some other poisons.

"The method of applying the insecticide is not important. It does not matter whether it be applied with a squirt-gun or a fire-engine, so long as the surface of the fruit is entirely coated with the poison, and especial care taken while spraying to thoroughly coat the calyx end of each and every apple; this is not difficult, as the corrugated shape of the calyx basin, and the curvature of the segments of the calyx especially favor



BEN E. HARRISON,

Of East Sound, Washington. A stalwart worker in the Federation of Washington Fruit Growers

the adhesion of the spray material at this point. The writer has frequently observed larvae approaching the apples from the leaves, and searching for an opening in the calyx, failing to find which, they have begun to eat their way through the segments of the calyx, to be destroyed, of course, by the poisonous coating of spray material.

"The method which we have found the most convenient and economical, consistent with thorough protection, is to use a two horse-power Fairbanks-Morse engine and force pump, mounted upon trucks so as to be easily moved about. In connection with this, we use three lines of hose, with 8-foot spray rods, one of which is manipulated from the top of a tower about 12 feet in height, mounted above the engine. The use of the tower is strongly recommended on account of the difficulty of thoroughly spraying the fruit in the tops of the trees from the ground. By using the tower a considerable saving of time is effected, and at the same time a great waste of material is avoided. Personally, I prefer the Bordeaux nozzle to any other spray nozzle which I have tried.

"Having in view the foregoing facts as to the habits of the moth, and the above suggestions as to spray materials and methods, I now wish to emphasize the fact that the two essential points to be borne in mind are the proper times for spraying, and the thoroughness with which the spraying is done.

"As to the proper times for spraying, using the dates given above for the life cycle of the moth as a standard, I recommend that not more than six days be allowed for each spraying, and that

the first spraying be applied between the 22d and 27th of May, both inclusive, and the second and last spraying between the 14th and 19th of June, both inclusive. The object of the first spraying is to thoroughly coat the surface of the fruit with the insecticide, and thus prevent the entrance of any of the early larvae through either the skin or calyx, while the second spraying is applied just prior to the hatching of the maximum number of the moths to reinforce the first spraying, and to protect the fruit where its growth has so exposed the skin as to render it vulnerable, thus absolutely preventing the entrance into the fruit of any of these pests whatever. Bearing in mind the fact that the eggs are not deposited in the calyx, it is evident that the spraying before the calyx closes is of no value, as it reaches the calyx only, while the later spraying above mentioned not only protects the calyx, whether closed or open, but also protects the skin of the fruit. It need hardly be pointed out that if the two sprayings recommended above be applied, and applied thoroughly, so as to completely coat the surface of the fruit with insecticide, there can be no second brood of the moth, as no opportunity is afforded the first brood to reproduce itself. In the event, however, that the first brood is not entirely disposed of, another spraying, applied as the first was, just prior to the hatching of what larvae have been allowed to remain, will accomplish the same result, although at slightly greater expense, which the other two sprayings would have accomplished if properly applied. In this connection, too much importance cannot be attached to united action by all the growers of any section, as two years of such thorough spraying, if applied by all the growers, would entirely eliminate the codlin moth from that section until such time as it might be brought in again from the outside, which would, of course, simply mean a repetition of the treatment.

"What I have said here about spraying apples, applies with equal force to pear culture, although there are several features connected with the growth of pears which make the problem of protecting the pear an easier one. In the first place, the apple being the natural food of the larva, a single spraying applied at the same time as the first spraying for apples, will suffice to protect pears where they are grown in company with apples, as the moth will naturally deposit the eggs upon the nearby apples in preference to the pears. Where, however, pears are grown alone, two sprayings, as recommended above for apples, will have the same result when used upon pears. This is more evident in the case of the pear, as in most instances the calyx of the pear does not close, even at maturity, and therefore there is no argument in favor of early spraying. The theory held by some, that the pear should be sprayed before it turns its head downward, is palpably an erroneous one, as it is apparent even to the novice at spraying that the calyx of the pear is more easily reached with the spray material after it is turned downward than before.

"As a result of these investigations, therefore, I have concluded, and recommended, that these three points be borne in mind and followed in spraying for the codlin moth:

"First: Spray just before the hatching of the first eggs, to keep the earlier larvae out of the fruit;

"Second: Spray just before the maximum hatching, to reinforce the earlier



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spraying and make up for the growth of the fruit;

"Third: Always spray thoroughly, so as to give the surface of the fruit a thorough and complete coating of the insecticide, and thus absolutely prevent the entrance of any larvae into the fruit.

"Careful and united observance of these suggestions will undoubtedly result in the extermination of the codlin moth, and elimination of the codlin moth problem, with all its perplexities, and thus not only enable our growers to



PEACHES RAISED AND PHOTOGRAPHED  
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produce more and better fruit, but also bring about a saving of thousands of dollars in the expense of maintenance of our orchards."

## A FRUIT INSPIRATION

**B**ETTER FRUIT, volume II, number 1, comes from the hands of the Better Fruit Publishing Company, Hood River, as a combined revelation and inspiration to those who would know something of the practical side of Oregon horticulture, and to those who already have an inkling of its possibilities. Devoted entirely to the fruit interests of this section, and especially of Oregon, this particular issue of "Better Fruit" has an abundance of reading and pictorial matter that will, or at least should, interest any person who believes in Oregon and this Pacific Northwest territory—who believes that in all the broad expanse of the Union there is no other territory like it. There is plenty of meaty and practical stuff for the fruit farmer, so far as our lay comprehension of the matter may determine. But beyond this and of special value as advertising the fruit possibilities and accomplishments in Oregon there is material that is most attractive. "Better Fruit," as we judge by this number, is well named. It not only helps some, it helps a good deal.—Portland Telegram.

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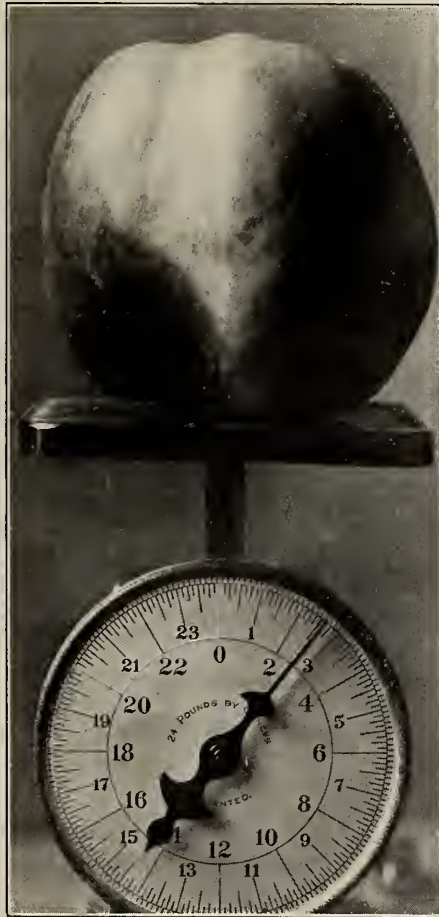
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### A VIGOROUS CAMPAIGN WAGED AGAINST SCALE

THE campaign during the past year on the part of fruit inspectors, both in the state of Oregon and Washington is, we think, without precedent in any district that we know of. We are pleased to note in connection with this campaign that the disposition of the grower has been to cheerfully comply with the demands of the inspector. In fact, in most districts the grower so thoroughly appreciated the importance of spraying, both as a cure and as



A MONSTER APPLE

Grown by Oscar Redfield, Cashmere, Wenatchee Valley, Washington. Weight 42 ounces

a preventive for fruit diseases, that in many cases, yes, we might say hundreds, it is not necessary for the inspector to notify the individual. The San Jose scale without treatment would have been a serious matter indeed for the orchard industry. But properly treated with the right kind of lime and sulphur, no one need fear its ravages in the Northwest, where every tree is in easy reach of the spray rod.

In many of the Eastern states it is an entirely different matter. There trees are anywhere from 30 to 50 years old and very large, so that it becomes impossible to effectively spray them. As a result in many districts, under such circumstances, it is impossible to eradicate scale. In fact, under such circumstances it is more than likely that it will eradicate the orchard. While, of course, we regret to see any district suffer in this way, we cannot refrain from making the statement that it makes the oppor-

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tunity for the fruit industry all the greater in the Northwest.

As an evidence of what is being done by growers in effective work against the San Jose scale, it is but necessary to state what the Oregon Spray & Gas Company are doing. Their business has grown so extensively that they have found it necessary to establish a plant at Hood River, which will be known as the Hood River Spray Manufacturing Company. We are advised that already this concern has booked orders for fifteen carloads of Oregon lime and sulphur to go out of the Hood River plant. Some of this is to go to Spokane, some to Wenatchee and the remainder will be consumed in Hood River and surrounding districts. We are advised that they have also established a plant at North Yakima, which will put out about twenty cars.

While this shows that the Oregon Spray & Gas Company's lime and sulphur is popular and that a great quantity has been sold, it does not indicate the entire volume of business that is being done in lime and sulphur, nor the entire work that is being done by growers against San Jose scale, for the reason that there are other good makes and many growers make their own lime and sulphur.

## MR. WITHYCOMBE'S OPINION OF WALNUTS

PACIFIC HOMESTEAD

**I**N AN article on Walnut Culture in Oregon, published in the Pacific Homestead of May 23 last, R. N. Williamson no doubt gave a very truthful statement concerning the raising of walnuts under certain conditions; but his article is liable to do injury to an industry which, if properly conducted, will prove to be one of the greatest wealth-producers in our state.

Having given the prune and walnut-growing in Oregon considerable of research for the past five or six years, I should be pleased to express my ideas on the subject through the columns of your valuable paper.

About twenty-five years ago, when wheat went very low in price, people looked about for other things to obtain money from, and the prune was extensively planted. In three-fourths of the cases it was a financial loss to the owner. The other fourth has paid well all the time—and without care such will be the case with walnut-planting. It has been practically demonstrated that we can raise the finest walnuts in the world, and in large quantities, and for a comparison of the two finest walnut orchards in the State of Oregon and California—the one owned by Thomas Prince of Dundee, Ore., and the other owned by Mrs. E. M. Vrooman, at Santa Rosa, Cal.—Ferd Groner, of Scholls, Ore., a very enterprising and progressive man, and a walnut-planter on a large scale, visited both orchards last year. He said the finest trees in Mr. Prince's yard were much heavier bearers than the finest trees in Mrs. Vrooman's yard, notwithstanding the trees in Mrs. Vrooman's yard were grafted Franquettes, while the trees in Mr. Prince's yard were seedlings from nuts.

Around the hill lands of Oregon are thermal belts, where the frosts do not damage tender crops like prunes, peaches and walnuts, and in some of these thermal belts can be found the finest quality of walnut land. The land where oak grows spontaneously does not do for walnuts, as a rule, as the hard pan is

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Sunset Magazine .....	\$1.50
Road of a Thousand Wonders .....	.75
"Better Fruit" .....	1.00

\$3.25

All for .....

\$1.50

Pacific Monthly .....	\$1.50
Weekly Journal .....	1.00
"Better Fruit" .....	1.00

\$3.50

All for .....

\$2.00

Weekly Oregonian .....	\$1.50
"Better Fruit" .....	1.00

Both .....

\$1.50

Oregon Agriculturist .....	\$1.00
"Better Fruit" .....	1.00

Both .....

\$1.25

American Fruit and Nut Journal .....	\$1.00
"Better Fruit" .....	1.00

Both .....

\$1.50

These clubbing rates do not apply in  
Canada owing to extra postage



# IT'S FREE

## The Best Nursery Catalogue For the Northwest

Send for it today

### J. J. BUTZER

190 Front Street

Portland, Oregon

## A. O. HERSHEY, Hood River, Oregon

### Wholesale Fruit and Produce

HOOD RIVER FANCY FRUIT AND PRODUCE A SPECIALTY

generally very close to the surface; but the hill land, where the fir grows spontaneously, and where the soil is deep and porous, will grow excellent walnuts. Lands where the hazel grows prolific amongst the fir is good land for walnuts if in the thermal belt.

I know of one walnut tree planted along a fence amongst some other fruit trees, and not cultivated at all, and is very much crowded by the other trees, is planted on land like I have described above, and in 1905 from that 12-year-old tree, twenty dollars' worth of walnuts of the finest quality were sold.

I think when we get orchards of grafted Franquette walnuts planted on the above-mentioned ground, the walnut business will become a great factor in our state's wealth.

THOMAS WITHYCOMBE.

## WHAT ADVERTISERS SAY OF BETTER FRUIT

OUR September number has called forth many complimentary notices from our advertisers and also subscribers. Believing our readers will be interested in knowing what they think about "Better Fruit," we publish below a number of their letters, which are as follows:

W. N. WHITE & CO.,

Fruits and General Produce,  
76-78 Park Place, New York.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: I congratulate you on your paper, as it must appeal to every fruit grower in the West. Your success with "Better Fruit" has been phenomenal, and if you continue on the same lines, I prophesy that in the next five years you will have one of the best papers in the West.

W. N. WHITE.

## THE GRAND JUNCTION FRUIT GROWERS' ASSOCIATION.

Grand Junction, Colorado, October 8, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: Received several copies of your September publication. This is exceptionally good. I want to congratulate you on this issue, its general make up, and the information contained, seems to me to come at the most opportune time for the apple growers.

THE GRAND JUNCTION FRUIT GROWERS' ASSOCIATION  
By J. F. Moore.

E. P. LOOMIS & Co.

New York City, September 30, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We cannot speak too highly of your September issue of "Better Fruit." The article entitled "Shipping the Apple from Orchard to Market" is the most accurate and complete treatise on that subject we have ever read. We believe your paper has done more toward bringing about the high standard of quality and pack which every ambitious grower is striving to attain than any other influence which has been brought to bear. We feel that every grower will make one of his most valuable investments when he subscribes to "Better Fruit." We consider "Better Fruit" the authority in this country on the growing, picking, packing and shipping of all fancy fruits.

E. P. LOOMIS & Co.

PAGE & SON,

Wholesale Fruits and Produce.

Portland, Oregon, October 8, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: The September number of "Better Fruit" is an exceptionally valuable issue to apple growers throughout the Northwest. The article written by C. I. Lewis is most complete and if read and followed by all the apple growers in the different sections of the Northwest the result would be that instead of a few favored sections where the picking and grading is carried on properly there would be many other districts that would pack and produce just as fine fruit as in these favored locations, with a result that the Northwest would have for market fully ten cars to where there is one shipped now. Shall send you shortly a long list of various prominent apple growers, to whom we are anxious that copies of this issue should be mailed.

PAGE & SON.

LEVY & SPIEGEL,

General Commission, Wholesale Fruits and Produce.

Portland, Oregon, September 28, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We congratulate you on the splendid issue of the September "Better Fruit," and are

## E. P. Loomis & Co.

Established 1868.

### Wholesale and Commission Merchants

Potatoes and Onions

Fancy selected APPLES in boxes are a specialty. Telegraph Codes: Economy, A B C and Scatter Goods. Cold storage warehouse, 95-97-99 Barclay St., N. Y.

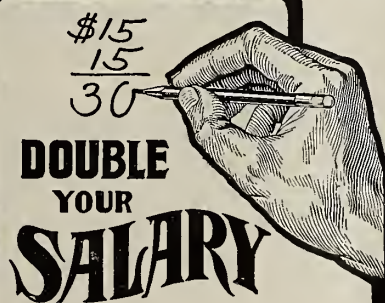
95 Barclay Street, New York

## LOOK HERE

We offer one of the largest stocks of cherry trees grown, grade and quality second to none, in all commercial varieties. Also a complete line of other nursery stock. By sending your orders direct to Washington Nursery Co., you will save 25 per cent. Address for prices.

REMLINGER BROTHERS

R. D. No. 2 Vancouver, Washington



Don't spend spare time thinking what you might be if your salary were doubled! *Doing*, not thinking, will make your wish a reality. Our free booklet, "Are Your Hands Tied?" tells you what to do and how to do it. Thousands have already doubled or largely increased their salaries by following our plan. Under our guidance you can do the same. Act today! I. C. S. Text-books make it easy for those already at work to

### Learn By Mail

Mechanical, Steam, Electrical, Civil, Mining, Telephone, and Telegraph Engineering; Shop and Foundry Practice; Mechanical Drawings; Architecture; Plumbing; Sheet-Metal Pattern Drafting; Chemistry; Ornamental Design; Lettering; Book-keeping; Stenography; English Branches; Teaching; Locomotive Running; Electrotherapeutics; German; Spanish; French.

Circular free. State subject that interests you.

INTERNATIONAL CORRESPONDENCE SCHOOLS,  
Box 799, SCRANTON, PA.

H. V. REED, Portland Agent, 64½ Sixth Street

# WALNUT TREES

PURE SECOND GENERATION STOCK of

## MAYETTES AND FRANQUETTES

SELECTED BY ME DURING MY RECENT VISIT TO FRANCE

## 10,000 BARTLETT PEAR TREES

First-Class Yearlings

## J. B. PILKINGTON, Nurseryman

Specialist in Nut Trees and Fine Ornamentals  
Full Line of Fruit Trees, Shrubs, Roses, Etc.

P. O. Box 242, Portland, Oregon



pleased to note the increase in the volume of the advertisements, which shows how rapidly interested parties throughout the United States recognize a good advertising medium when they see it. We believe if the parties who are advertising Oregon would buy up a quantity of your magazines and distribute them among Easterners it would greatly increase the immigration to this great Northwest. Enclosed please find the name and address of a party to whom we wish you to send a year's subscription to your paper, also please find check for same. Wishing you great success, we are,  
LEVY & SPIEGL.

RAE & HATFIELD,  
Commission Merchants.

New York, October 1, 1907.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We have yours of the 23d, and will say that we received your September issue of "Better Fruit" and looking it over congratulate you upon the manner in which you have gotten up this what we consider really the best paper devoted to the fruit growing proposition in this country.  
RAE & HATFIELD.

TEMPLETON & GRAHAM,  
Portland, Oregon.

Wholesale Commission Merchants.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We consider the September number of "Better Fruit" one of the best yet issued, and as a publication the best on the Coast if not in the Union. Every fruit grower should take this paper, as the information contained therein is worth many times the small cost of the paper. As the best fruit state in the country, Oregon is fittingly represented by "Better Fruit."

B. W. GRAHAM, OF TEMPLETON & GRAHAM.

KEALLY & LOVETT,

Fruits and Produce.  
Pittsburg, Pennsylvania, September 30, 1907.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: Replying to your favor of the 23d, permit us to say that we have yet to receive a fruit and produce journal or magazine gotten up in any better form than the one received from you. The copy at hand is a work of art and should not only prove a benefit to the grower, but to the dealer as well. We wish you much success in your new venture.  
KEALLY & LOVETT.

F. NEWHALL & SONS,  
Wholesale and Commission Dealers in Fruit.  
131 South Water Street.

Chicago, September 30, 1907.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We have stated several times to you and to many others our opinion of your publication "Better Fruit." While there are a lot of splendid, finely gotten up papers and periodicals coming out of the far west fruit country, we know of nothing in the shape of fruit literature which has been gotten together in nicer or more readable shape than "Better Fruit." It certainly has had a large influence in drawing the long prices which have been received this year on the "better fruit" that you people have been shipping this year.  
F. NEWHALL & SONS.

H. WOODS CO.,  
General Produce Commission Merchants.  
127 South Water Street.

Chicago, September 28, 1907.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We wish to congratulate you on your September issue, more especially the article on picking, grading and packing fruit. We read the article with considerable interest, and if every grower and packer would follow out its suggestions we feel quite sure it would result in profit to them in the way of increased sales and higher prices, and it would also mean more money to the dealer who handled the fruit, in the way of quicker sales and satisfaction to the customer. It is such articles that make a paper valuable not only to the grower, but also to the dealer who is thus placed in a position to get the best fruit. It pays every one who handles the fruit to put it up in the best possible manner, and while it may mean a little extra expense, in the end it results in greater net returns.  
H. Woods Co.

PEARSON-PAGE COMPANY,  
Commission Merchants, 133 Front Street,  
Portland, Oregon, September 27, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: Replying to yours of September 23d, would state that the general make up of your September number of "Better Fruit" is not only a credit to Hood River, but to the entire State. If we had more enterprises of this nature in Oregon we are positive we would have "better fruit." Wishing you every success in your enterprise, we remain,  
PEARSON-PAGE Co.

DAVENPORT BROS.,  
Commission Merchants, Wholesale Fruits.  
150 Front Street.

Portland, Oregon, September 25, 1907.  
BETTER FRUIT PUBLISHING Co., Hood River, Oregon: The September number of "Better Fruit" is one of the finest and most valuable copies of its kind that I have had the pleasure of reading. I am very particular in regard to the way fruit is packed, etc., and think your magazine is going to prove of great benefit to us, as

## GEO. MIDDENDORF CO.

## FRUIT

135-137 SOUTH WATER STREET, CHICAGO

HAVE A HEAVY **SALE** DAILY FOR WESTERN FRUIT

IF YOU WANT A CENTRAL OR EASTERN OUTLET  
WRITE US AT ONCE, WE CAN ASSURE YOU GOOD **RESULTS**

## A Fruit Home in Southern Washington

Take advantage of the low rates to the Pacific Coast and come to White Salmon, Washington. The finest fruit country in the world. Our Newtown and Spitzenberg Apples command the highest prices in the world's markets. Our Strawberries are the earliest in the northwest. The very best fruit land \$25 per acre. Ten acres make a comfortable home and a good living for any family. Located across the Columbia river from Hood River Oregon.

*WRITE US FOR DESCRIPTIVE MATTER AND PRICES*

Estes Realty & Investment Company WHITE SALMON  
WASHINGTON

## HOOD RIVER VALLEY

The land where the Spitzenberg and Newtown Apples reach perfection. A country noted for its rich productive soil, healthful climate, beautiful scenery and pure water. An ideal country for a permanent home. Don't delay. Write us today for reliable information and descriptive matter about the wonderful Hood River Valley. All inquiries promptly and cheerfully attended to. You get the facts. Nothing misrepresented.

## J. H. HEILBRONNER & CO.

Reliable Real Estate Dealers Hood River & Portland, Oregon

## THE ROGUE RIVER VALLEY THE CREAM OF CREATION

Has again demonstrated by the great crop of fruit now set for 1907 that this is the surest in its crop production of any part of America. This fact makes this district look good to the trained horticulturists of all other sections of the Northwest. When it is conceded that orchards approaching the bearing period here are held at less than one-half the figures demanded for similar lands in other districts yielding less net profits than here, it should impress the readers of "Better Fruit" that now is the time to invest in this favored valley, with its regular crops and famous good climate. The homeseeker will get the benefit of more than twenty years' experience in the fruit business by dealing with the

## ROGUE RIVER LAND COMPANY

EXHIBIT BUILDING

MEDFORD, OREGON



LESLIE BUTLER, President  
J. N. TEAL, Vice President  
TRUMAN BUTLER, Cashier

Established 1900  
Incorporated 1905

## Butler Banking Company

HOOD RIVER, OREGON

Capital Fully Paid \$50,000

Deposits over \$400,000

**We give special attention to GOOD FARM LOANS**

If you have money to loan we will find you good Real Estate security or if you want to borrow we can place your application in good hands and we make no charge for this service

*The Managing Officers of this Bank have been residents of Wasco County for more than twenty-five years*

W. M. LADD

C. E. LADD

J. W. LADD

ESTABLISHED 1859

## Ladd & Tilton, Bankers

PORTLAND, OREGON

TRANSACT A GENERAL BANKING BUSINESS

## SAVINGS BANK DEPARTMENT

SAVINGS BOOKS ISSUED ON SAVINGS DEPOSITS

INTEREST PAID ON TIME DEPOSITS

CHAS. G. PRATT, President      R. W. PRATT, Cashier  
J. H. OSBORNE, Vice President

## Hood River Banking & Trust Co.

Interest paid on Time Deposits

HOOD RIVER, OREGON

## Sunnyside Land & Investment Co.

## SUNNYSIDE, GRANGER

and GRANDVIEW RELIABLE DEALERS IN  
FRUIT LANDS  
OF THE YAKIMA VALLEY

FOR FULL PARTICULARS ADDRESS

Sunnyside Land & Investment Co. SUNNYSIDE  
WASH.

WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

well as to the farmers, inasmuch as it will educate them in regard to the way of taking care of their fruit to get the best results, and also what is equally important, the way to sort and pack it. DAVENPORT BROS.

DRYER, BOLLAM & CO.,

General Commission Merchants, 128 Front Street, Portland, Oregon, September 27, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: The article on fruit packing in the September number of "Better Fruit" is something fruit packers have needed, and it ought to be in the hands of everyone interested in handling fruit. We have several shippers of good fruit who are lacking in their methods of packing, and we would like to have you mail us a dozen copies of the September number, if you can spare them, so that we can put them in the hands of these shippers, being convinced it will result in great benefit to them as well as to ourselves. "Better Fruit" is, in our opinion, the brightest and most up-to-date fruit magazine that comes to our office.

DRYER, BOLLAM & Co.

W. B. GLAFKE CO.,

Wholesale Fruits, Produce and Dairy Products. 108-110 Front Street.

Portland, Oregon, September 25, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We want to compliment you on your September issue of "Better Fruit," and we believe it to be the best fruit magazine that we have ever seen. The September issue was certainly very complete, beautifully illustrated, and articles well written, and we think every fruit raiser, shipper and handler should encourage you in the good work you are doing.

W. B. GLAFKE Co.

FANCHER CREEK NURSERIES.

Fresno, California, September 28, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We must say that we are highly pleased with your paper and have already received quite a few inquiries through our ad. We hope before the season is over with to get considerable business through this medium.

FANCHER CREEK NURSERIES.

BELL & CO., INC.,

Wholesale Fruits and Produce, 109-115 Front Street.

Portland, Oregon, September 24, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: It affords us much pleasure to say to you that we believe your publication is doing a vast amount of good in improving conditions in the matter of growing and handling fruits, and we are sure that it is valued by every grower in Oregon and Washington, as well as any other states that it reaches. We congratulate you upon the success to which you have attained in this publication, and we would like to see it reach the home of every grower of fruit in the Northwest. We wish you continued and broadened success, and beg to remain,

BELL & Co.

GORDON & CO.,

General Commission Merchants.

Seattle, September 24, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We are very much pleased with your magazine. We believe it contains more information that is of interest to dealers and growers alike than any magazine that comes to our notice, and feel that it is crisp and fresh with every issue. We have tested its columns as an advertising medium and are satisfied with results.

GORDON & Co.

DAVENPORT-THOMPSON COMPANY,

Commission Merchants, Wholesale Fruit and Produce Dealers, 144 Front Street.

Portland, Oregon, October 9, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: It is with pleasure that an opportunity is afforded us to speak in behalf of the publication of Hood River under title of "Better Fruit." The cause is most worthy and the field is large, and while in the past few years great strides have been made in apple culture as well as other fruits, still we all agree there is yet much that could be done. The campaign which "Better Fruit" has inaugurated will do more to enrich the State of Oregon than any other cause which is under way. The enlightenment of fruit growers as to the best and most approved methods of producing fancy fruits will be a great help to Oregon. The quality of our fruit is so superior that it tends to serve as a splendid advertisement wherever it is used, and the distribution of Oregon fruits is becoming almost world-wide. We say, all praise to "Better Fruit" for the noble work which it has planned and is so creditably fulfilling. We beg to remain,

DAVENPORT-THOMPSON Co.

ROGUE RIVER LAND CO.

Medford, Oregon, September 25, 1907.

BETTER FRUIT PUBLISHING Co., Hood River, Oregon: We think the subject, "Shipping the Apple from Orchard to Market," which appears in your September issue, deserves a great deal of consideration, as it is one of the most important subjects in the handling of the business. It is the best article we have ever seen on the subject and covers the ground thoroughly.

ROGUE RIVER LAND COMPANY.



## WHERE AND HOW TO MARKET YOUR FRUIT

WE desire to call the attention of associations and individual shippers to our list of fruit-buyers, as we have received several letters from both in regard to marketing their fruit. It is the policy of this paper not to accept any but reliable firms as advertisers, and as such we can recommend those who are now using or have been using our columns for that purpose.

In our advertising columns will be found the names of the following firms whom it will be well for you to consult if you have fruit to dispose of:

### EASTERN BUYERS

F. Newhall & Sons, Chicago; George Midden-dorf Co., Chicago; Crutchfield, Woolfolk & Gibson, Chicago; H. Woods Co., Chicago; W. N. White & Co., New York; Steinhardt & Kelly, New York; E. P. Loomis & Co., New York; D. Crossley & Sons, New York; Rae & Hatfield, New York; Keally & Lovett, Pittsburg; Appel & Ujffy, New Orleans; Ives & Wynn, Philadelphia.

### WESTERN BUYERS

Davenport Bros., Portland, Oregon; Pearson, Page & Co., Portland, Oregon; MeEwen & Koskey, Portland, Oregon; Page & Son, Portland, Oregon; Templeton & Graham, Portland, Oregon; Davenport & Thompson, Portland, Oregon; Mark Levy, Portland, Oregon; Bell & Co., Portland, Oregon; Levy & Spiegl, Portland, Oregon; W. B. Glafke & Co., Portland, Oregon; Dryer, Bollam Co., Portland, Oregon; California Commission Co., Seattle, Washington; W. Biglow & Co., Seattle, Washington; Gordon & Co., Seattle, Washington; Ryan & Newton, Spokane, Washington; Davidson Fruit Co., Hood River, Oregon; A. O. Hershev, Hood River, Oregon; Richey & Gilbert, North Yakima, Washington; H. S. Emerson, Seattle, Washington.

## GRASSELLI ARSENATE OF LEAD ANALYZED

HAVING received several inquiries in regard to the strength and efficiency of the arsenate of lead spray put out by the Grasselli Chemical Co., we publish a letter from H. W. Thatcher, Director of the Experiment Station at Pullman, Washington, in regard to it, as follows:

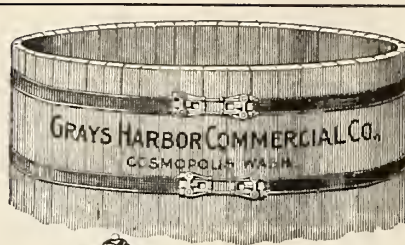
STATE AGRICULTURAL EXPERIMENT STATION,  
Pullman, Washington

The Grasselli Co., St. Paul, Minnesota—Gentlemen: We have recently made an analysis of the sample of the arsenate of lead which you submitted to us several weeks ago. We find that it contains 17.09 per cent arsenic pentoxide and 41.62 per cent lead oxide. These are larger percentages than we have found in any other sample which we have analyzed of any brand of arsenate of lead now being sold in this state. Your preparation is therefore of very high strength, and we find it to be also in excellent physical form, and would have no hesitancy in recommending it as a very high grade product. You are at liberty to use this statement in any way that you desire.

Yours very truly,  
R. W. THATCHER,  
Director Experiment Station.

## VALUABLE FERTILIZER

FARMYARD manure is generally underestimated in value. Farmers do not seem to realize that a ton of clover has a manurial value of about \$7, and that all leguminous and protein feeds, like peas, the clovers, bran, oil meal, oats, the gluten, etc., are very rich in fertilizing values. Well posted authorities estimate the value of manure on the average farm as worth \$200 to \$300 annually. Commercial fertilizers are all right in their place but they can never take the place of barnyard manure on the farm, because they add no humus to the soil. Barnyard manure should be taken as the basis, at least, of soil fertility. If it were estimated at its true value, properly cared for and applied, not half the expense that is annually made for commercial fertilizers would be necessary.—Wisconsin Agriculturist.



FLAT HOOPS-IRON DRAW-LUGS

## TANKS

Accurately constructed tanks for most any purpose. Write for our illustrated catalogue and prices.

**GRAYS HARBOR COMMERCIAL CO**

ALASKA BLDG. SEATTLE, WASH.

## The Best Agricultural Sprays in the world "Lion Brand"

PURE PARIS GREEN for Chewing Insects  
CALIFORNIA WASH for San Jose Scale  
ARSENATE OF LEAD for Chewing Insects

BORDEAUX MIXTURE for Rot, Blight and Mildew  
KEROSENE EMULSION for Sucking Insects, Lice  
Put up in convenient sizes, and at RIGHT PRICES

Send for our booklet, When, Why and How to Spray. THE JAMES A. BLANCHARD CO.  
The Largest Manufacturers of Agricultural Sprays in the U. S. NEW YORK CITY, N. Y.

## CHERRY GROWERS, YOUR ATTENTION

Royal Ann, Bing and Lambert Trees and also a complete assortment of Spitzenbergs, Newtowns and other fruit trees

**A. HOLODAY**

MONTE VISTA NURSERY  
SCAPPOOSE, OREGON

## DAILY & BRIGGS, Farm and City Property

Mining and Timber Claims

Specialty of Fruit, Alfalfa and Stock Ranches  
in the Famous Rogue River Valley.

JACKSONVILLE, OREGON

## FREE INFORMATION

Furnished those desiring same, concerning FRUIT, WHEAT AND IRRIGATED LANDS adjacent to Prosser in the lower Yakima valley

Write or call on

**McNEILL & STAM, REAL ESTATE BROKERS**  
PROSSER, WASHINGTON

## H. S. EMERSON CO., Inc.

919-921 WESTERN AVENUE, SEATTLE, WASHINGTON

We always want fancy fruit. If you have anything to sell or consign, tell us all about it. Rubber stamp sent on request.

We are now ready to make prices on

## FRUIT TREE STOCKS

BOTH FOREIGN AND DOMESTIC

Apple, Cherry, Pear and Plum Seedlings, Rose Stocks,  
Plants for Hedging and General Nursery Stock

SEND LIST OF WANTS FOR PRICES

**Shenandoah Nurseries**

D. S. LAKE, Proprietor

SHENANDOAH, IOWA



J. S. CRUTCHFIELD  
PresidentR. B. WOOLFOLK  
TreasurerN. N. FRITZ  
SecretaryN. G. GIBSON  
Vice-President

It is now time that you are considering the matter of marketing your output for this season, and in view of this fact we desire to call your attention to the peculiarly strong position we are in as marketers.

It is unnecessary to remind you that Chicago is the largest market in the United States; very large as a consuming center, and very much the largest as a distributing center to other markets. Very nearly all the fruit and produce coming from the great western fruit growing sections destined to the heavy consuming markets of the East are distributed through Chicago, thus giving you the advantage at all times of the strongest market in the United States, caused by the fact that when these shipments are handled by us we sell locally, if best prices can be realized here, otherwise send to any market in the United States or Europe, if it will command better prices.

We are able to do this because of the peculiar location of the city of Chicago, and the fact that it is the great railroad center of the United States. These being facts, we would call your attention to the ability we have for selling. We sell every large house in Chicago, and so do not depend upon any one store to handle the products marketed by us. We have our strong connection at Pittsburg, through Crutchfield & Woolfolk at that place. In addition to this we also have strong corresponding houses in all the cities east of the Missouri River.

We have already contracted with a number of associations and large shippers to market their crops, and would offer you our services in this line. We shall be glad to hear from you as to what you expect to have to market, and on receipt of this advice we will give you any information we may have at this end of the line. If intrusted with the marketing of your crop we promise you a square deal, skillful salesmanship and prompt returns.

As to our reliability and financial standing, we beg to refer you to the National Bank of the Republic, Chicago; the National Bank of Western Pennsylvania, Pittsburg; R. G. Dun & Co.; the Chicago Packer, and "Better Fruit."

## CRUTCHFIELD, WOOLFOLK & GIBSON, Inc.

Corner Clark and South Water Street CHICAGO, ILLINOIS

## FRUIT IN LEWISTON-CLARKSTON COUNTRY

**G**OOD apples are grown in many localities, but we must confess that a close study of the market reports for the past few years indicates all too plainly that the superior grades, those that bring the high prices, have all, or nearly all, come from the Pacific Northwest. A further study of the situation shows that these apples are all grown in the lower irrigated valleys of the Columbia River basin. It is an interesting fact that the superlative grades are grown only at the lower altitudes, and many Hood River growers insist that these superlative grades of apples, the kinds and qualities that sell in Eastern markets at from 6c to 12c per pound by the box—are grown only on lands lying below an elevation of 1,200 feet above sea level. When we couple this statement with the now well-known fact that altitude in the irrigated valleys of the Northwest determines temperatures and length of season as well as quality of soil, the reason for this superlative quality becomes apparent. The mild winters and very long growing season in the Lewiston-Clarkston Valley, for example, result in a growing season of nearly nine months in length, and consequent great size and superior quality in fruits. The U. S. Weather Bureau reports show that this valley has more hours of sunshine in the growing season than does any part of California, due in part to the lesser diameter of the earth in the more northern latitude. The soil is alluvial silt, of which the greater portion is composed of disintegrated laval rock and volcanic ash, rich in phosphates and potash compounds, the same soil which has made the valley of the Rhine and the Nile Valley famous for centuries. The Lewiston-Clarkston Valley is a broadening of the canyons of the Snake and Clearwater Rivers on the boundary between Idaho and Washington. This valley not only grows superior grades of apples, but its European grapes won the gold medal at both the St. Louis and Portland expositions in competition with the world. The twin cities of Lewiston, in Idaho, and Clarkston in Washington, separated only by the Snake River on the state line, known as Lewiston-Clarkston, undoubtedly have a promising future, not only because of the fruit growing prospects, but also because of the fact that they lie at the head of navigation on the Columbia and Snake Rivers waterway, and because of the topography of the surrounding country, is such that any railway using the water-grade route (by the way, the only water-grade route from the Rocky Mountains to the Pacific Ocean) must necessarily build through this valley. The Northern Pacific is already in there. The Union Pacific, through its Oregon Railway and Navigation Company line, has just completed its track-laying into the city, a Northern Pacific branch is nearly completed from the valley to the rich outlying territory, and two other railroads are now rapidly building toward the valley. A letter addressed to the "Development League" in either town will bring to any interested reader further information.

**B**BETTER FRUIT has absolutely without question the cleanest and most reliable advertisers of any fruit paper or horticultural paper of any kind in existence.

### "A WISE INVESTMENT IS OFTEN MORE PROFITABLE THAN A LIFE'S LABOR"

Two thousand acres of level and fertile land in one entire body in wild hay, will be, under the Government water system, nicely situated for subdivision; a good speculation. Price for entire tract, \$15.00 per acre.

Two hundred and seventy acres fruit or alfalfa farm, mostly Rogue River bottom land, about 100 acres already in alfalfa, which will raise four crops a season; good buildings; 200 acres under ditch owned by the place, with plenty of water. Price, per acre, \$60.00.

Seven hundred-acre farm on Rogue River, 250 acres in cultivation, 40 acres in alfalfa; large and good buildings and right on the Southern Pacific Railroad. Price for the entire tract, \$30.00 per acre. We have many thousands of acres of fertile lands for sale at reasonable prices. WHITE & TROWBRIDGE, MEDFORD, OREGON.



### Make Your Farm Wagon Ride Easier and Last Longer

It doesn't take 80 seconds to slip a pair of Harvey Bolster Springs under your wagon-bed and forever end the continual bumping and wear and tear which soon puts any wagon out of business. You can save many a dollar by marketing your potatoes, eggs, fruit, etc., in a wagon that doesn't jam, break and bruise them, for it is a well-known fact that truck-buyers pay  $\frac{1}{4}$  to  $\frac{1}{2}$  less for fruits and vegetables which are marketed in a wagon without springs. With Harvey Springs are scientifically made, leaf by leaf, from the very best tempered steel. We positively guarantee every pair to give satisfaction in every way. TRY THEM AT OUR RISK! We want you to use Harvey Springs on your wagon FREE for 30 days to find out for yourself that they're everything we claim—just as good as we tell you they are. This trial won't cost you a penny. Drop us a postal, giving weight of your heaviest load and your dealer's name, and we'll send you our catalogue and arrange with him to give you a set on 30 Days' Free Trial. Be sure to write TODAY—before you lay down this paper. Harvey Spring Co., 404 17th St., Racine, Wisconsin

#### FREE Trial to You

on your wagon you can bring home furniture, glassware, etc., without getting it scratched or smashed to pieces.

#### HARVEY BOLSTER SPRINGS

are scientifically made, leaf by leaf, from the very best tempered steel. We positively guarantee every pair to give satisfaction in every way. TRY THEM AT OUR RISK! We want you to use Harvey Springs on your wagon FREE for 30 days to find out for yourself that they're everything we claim—just as good as we tell you they are. This trial won't cost you a penny. Drop us a postal, giving weight of your heaviest load and your dealer's name, and we'll send you our catalogue and arrange with him to give you a set on 30 Days' Free Trial. Be sure to write TODAY—before you lay down this paper. Harvey Spring Co., 404 17th St., Racine, Wisconsin



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*Hood River's Largest and Best Store*

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We are offering some extra specials in our Clothing Department. Ask to see them

Try a pair of American Lady \$3 & \$3.50 Shoes or American Gentlemen \$3.50 & \$4

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THE BEST OF  
ORCHARD AND GARDEN TOOLS  
A SPECIALTY

J. R. NICKELSEN  
HOOD RIVER, OREGON

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The Garden Spot of Washington

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Cuts from both sides of limb and does not bruise the bark.  
We pay Express charges on all orders.  
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GRAND RAPIDS, MICH.

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Without Question the Most Entertaining and Practical Magazine in the World for Young Americans.

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36 Pages, size of Ladies' Home Journal.

Serial and Short Stories by Stratemeyer, Tomlinson, Trowbridge, Munroe, Shute, and others, the best writers for boys in the world.

Departments relating to all Boy Hobbies, edited by experts.

It preaches the religion of "DO," and not that of "DON'T."

Is doing more for the Uplift and Encouragement of Boys than any other agency.

Approved by parents and educators. Boys (250,000 of them) everywhere enthusiastic for it.

The subscription price of The American Boy is \$1.00 per year.

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AND

THE AMERICAN BOY

One Year for \$1.50



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Our facilities for the prompt handling of out-of-town orders, together with the high-class service we render, makes this a good place to buy Printing. *Better Fruit* is designed and printed in our establishment. Long Distance Telephone Main 165.

F. W. BALTES & CO.

FIRST AND OAK PORTLAND, OREGON

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DOING A GENERAL ELECTRIC  
LIGHT AND POWER BUSINESS

TWENTY-FOUR HOUR SERVICE

City Water Works System for Domestic and Municipal Use.  
Are prepared to furnish 3000 Horse Power, either  
Electric or Water, at Reasonable Rates

General Office, HOOD RIVER, OREGON





# FARMERS

## READ THE WEEKLY OREGONIAN OF PORTLAND

For the general news of the World also for information about how to obtain the best results in cultivating the soil, Stock Raising, Fruit Growing etc.

You can secure this excellent paper by

Addressing BETTER FRUIT PUBLISHING COMPANY Hood River, Oregon and enclosing \$1.50, when we will send you Better Fruit, subscription price \$1.00 and the Weekly Oregonian, subscription price \$1.50, for \$1.50 for both.

## White Salmon

Washington, Opposite Hood River

On the line of the new railroad being constructed as part of the great Hill system down the Columbia River. Fruit lands the same as in the famous Hood River Valley, but lower in price. Apples have taken prizes in competition with Hood River fruit. Earliest strawberries at biggest prices along Columbia River. Buy now before railroad is completed. Prices advancing. Fine unimproved fruit land \$25 to \$40 per acre. Easy terms. Address or see

**R. FIELD & CO.**  
WHITE SALMON, WASHINGTON



THREE YEAR OLD PEACH ORCHARD AT WHITE SALMON



# Irrigated Fruit Lands in the Bitter Root Valley of Montana

## References as to the Financial Standing and Integrity of the Owners of This Land

CHICAGO, ILLINOIS  
 FIRST NATIONAL BANK  
 NATIONAL BANK OF THE REPUBLIC  
 METROPOLITAN TRUST AND SAVINGS BANK  
 CONTINENTAL NATIONAL BANK  
 ROYAL TRUST COMPANY  
 BENJ. NEWHALL, of J. Newhall & Sons  
 IRA M. COBE, Pres. Calumet Electric R. R.  
 JOHN W. MCKINNON, Pres. Knickerbocker Ice Co., of Baltimore

HAMILTON, MONTANA  
 RAVALLI COUNTY BANK  
 CITIZEN'S STATE BANK  
 STEVENSVILLE, MONTANA  
 BITTER ROOT VALLEY BANK

MISSOULA, MONTANA  
 FIRST NATIONAL BANK  
 MISSOULA TRUST AND SECURITY BANK  
 WEST. MONT. NATIONAL BANK

**T**HE BITTER ROOT DISTRICT IRRIGATION CO. lands are practically the last of the distinctly high-class fruit lands purchasable at a price which will permit a man in moderate circumstances to secure a fruit farm, as the most valuable lands for fruit culture are fast disappearing from the market. Fruit lands are readily selling at \$300 and upward per acre for undeveloped irrigated lands, and as Eastern orchards are rapidly deteriorating, owing principally to intemperate seasons, \$500 to \$700 and upwards per acre are prices at which well developed irrigated orchards find ready sale today. Crop records of the Bitter Root Valley show as high a yield, net, per acre, as any land in the U. S.

CONVINCING BOOKLET  
 PROFUSELY ILLUSTRATED  
 SENT ON REQUEST



THE APPLE WITHOUT A  
 WORM. YOU CAN EAT IT  
 FEARLESSLY IN THE DARK

**O**UR LANDS ARE NOW OFFERED AT \$100 PER ACRE, one-quarter down and the balance in equal annual installments. Building supplies are cheap and you are entitled, as a land holder, to cut free of expense a yearly total of 10,000 feet of lumber from the National Forest Reserve, which immediately adjoins our lands. Ten acres of this land, properly cultivated, will more than amply provide for the everyday needs of a family from the very start, and as the fruit trees come into bearing large profits are assured.

We GUARANTEE to refund within 90 days of purchase the entire amount paid for lands which, after investigation, do not entirely please the buyer.

**R**EAD WHAT THE U. S. GOVERNMENT says about the Bitter Root Valley. Report from the Department of Agriculture. Bulletin No. 172.

"Throughout the valley diversified farming is practiced. All kinds of cereals do well. Red clover and timothy seem to be preferred in places to alfalfa. The soil is peculiarly well adapted to vegetables, and both soil and climate are admirably suited to fruit raising. The apple, plum, cherry, and in fact all the hardier varieties of deciduous fruit trees, appear to have found in the Bitter Root Valley ideal conditions for their growth. Sheltered from the west winds by the Bitter Root Mountains and from the east winds by the main range of the Rockies, the valley possesses a much more moderate climate than many fruit producing regions which lie far to the south of Montana."

## Land Values

**I**T is difficult for those not informed to understand why lands in some of the Pacific slope valleys are so much more valuable than, for example, Illinois farm lands. The reason is that the valley lands grow a much higher priced product than corn, wheat, or oats. The yield from an acre of high grade Western fruit land will bring in money from ten to twenty times more than an acre of grain. This is the secret of the higher values. Apples grown in the Bitter Root Valley are never sold in barrels, but are packed in boxes and sold as fancy fruit. The area of lands capable of producing fruit of the quality grown in the Bitter Root Valley is limited to a few valleys in the Northwest. Hence the high price that such land commands.

## THE MONTANA AGRICULTURAL STATION BOZEMAN, MONTANA

DEPARTMENT OF HORTICULTURE  
 R. W. FISHER, HORTICULTURIST

BOZEMAN, MONT. Sept. 17, 1907.

BITTER ROOT DISTRICT IRRIGATION COMPANY,  
 100 Washington St., Chicago.

GENTLEMEN:—

I have just this morning returned from the Bitter Root Valley. The fruit this fall is an eye opener, even to people who are acquainted with conditions in the valley. I have seen some of the best apples the past week that I have ever seen anywhere, not excepting the Hood River.

In regard to the ten-acre tracts of land which are sold for \$1,000. I have figured out what I think is a liberal estimate for the expenditures during the first year on this land. Expenditures are as follows:

First payment \$250.00, house \$250.00, taxes \$5.00, interest on first deferred payment \$45.00, trees \$125.00, water maintenance \$12.50, fence \$50.00, horse \$100.00, cow \$30.00, seeds \$40.00, plow and cultivator \$35.00, strawberry plants \$35.00, single wagon \$75.00, making a total of \$1,052.50, which would be necessary to spend to get ten acres on a paying basis.

The income following for the first year could be made by one who has some knowledge of growing vegetables or by one who is willing and capable of taking advice or profiting by experience of others:

Two acres of potatoes \$200.00, two acres cabbages \$400.00, one acre miscellaneous vegetables \$200.00, one acre onions \$150.00, making a total income for the first year of \$950.00. In addition to this, in the fall of 1907 he could get a profit from one acre of strawberries which would be in the neighborhood of \$300.00.

Starting with \$1,000.00 an energetic man will not make a failure on ten acres of land in the Bitter Root Valley. Even if he had less than this amount a person could make a living and get a place started by doing work for neighbors or in the lumber camps. I could point out a number of farmers in the Bitter Root Valley who have gone in there during the past four or five years without any capital whatever and have made not only a living but have been putting money in the bank. Of course, a great deal depends upon the man, but I believe any one will be perfectly safe in starting in with a ten acre tract, even though his capital is limited to \$1,000.00.

Very truly yours,  
 (Signed) R. W. FISHER.

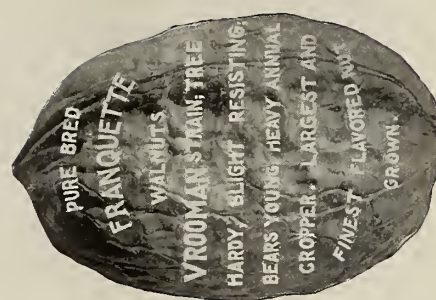
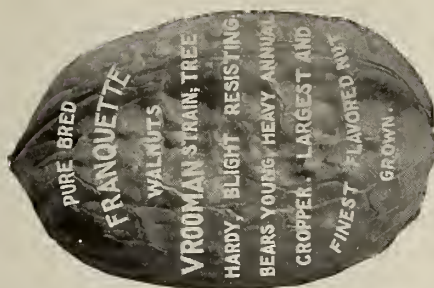
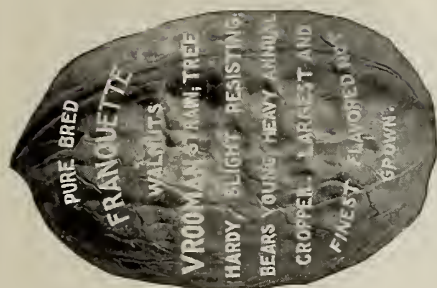
## Bitter Root District Irrigation Company

Chicago Title and Trust Building

Room 504, 100 Washington Street, Chicago, Ill.

Schnadig Adv. System—Chicago





## YOU'RE THE JUDGE

Planting any trees this season? Then in justice to yourself ascertain the standing and merits of our trees before placing your order elsewhere. If they are better than the "other fellow's" you want them, don't you? A postal card addressed to us will bring to your desk our latest revised, illustrated catalogue and prices. You should have our catalogue whether planting this year or next. You need it.

### Growing Trees is Our Business—Understand?

And it has been our exclusive business for a good many years. We have learned through actual experience and demonstration, how to produce a first class tree and the best methods for caring for them after they are grown, so that they may reach the buyer in satisfactory condition.

### Looking at the Pennies: Overlooking the \$ \$ \$ \$

Is being done every time an orchardist thinks he will save a few dollars by buying a cheaper grade of trees, than he can get from a standard reliable nursery. It don't pay and you know it. Then don't do it. Send us a list of your WANTS for this year and get our prices.

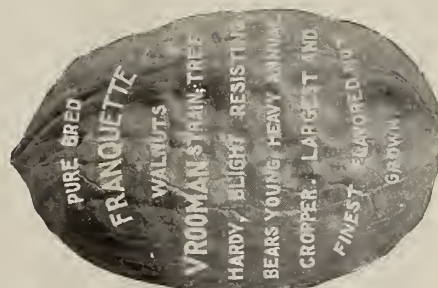
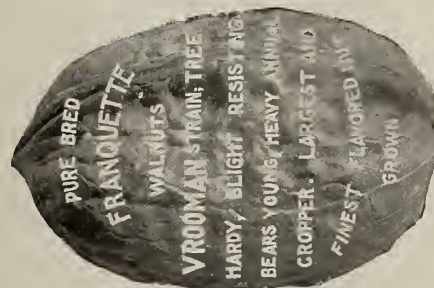
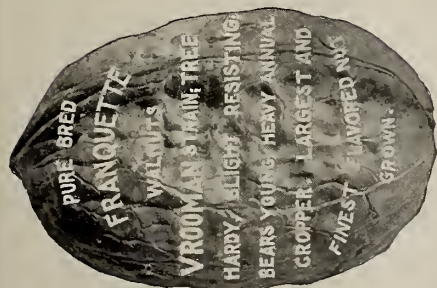
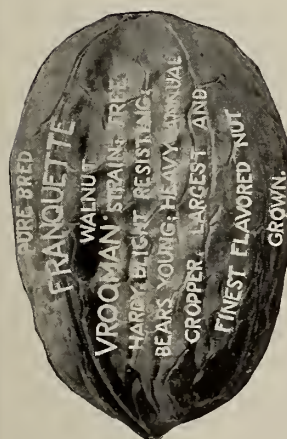
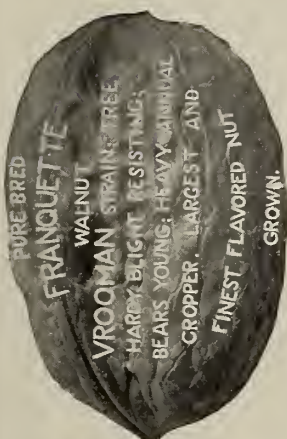
### About Walnuts

We have been trying for years to get a line of walnut trees that we could recommend unreservedly to the planting public. Now we have it in the PURE STRAIN FRANQUETTE. Space here will not permit an elaborate explanation, but write for special walnut literature; we have it free for the asking. We have the best and you should know it. Give us an opportunity to show you "where we stand."

*Wanted Reliable Salesmen Everywhere*

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We make a special feature of  
apple and pear land

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Our Newtown Pippins are fine quality,  
keep better, and bring the highest price.  
Pear orchard net yield \$500 per acre.  
Land finely located \$30 per acre and  
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LANDS OWNED BY PRIVATE  
INDIVIDUALS AND LAND COMPANIES  
LANDS IN IRRIGATED DISTRICTS  
BUSINESS AND INDUSTRIAL  
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## Northern Pacific Railway

Write to  
**C.W. MOTT** General Emigration Agent,  
Northern Pacific Railway.  
ST. PAUL, MINNESOTA.




**YAKIMA VALLEY  
RED  
APPLES**  
YAKIMA, WASHINGTON



## Fine Rogue River Orchard for Sale

Owing to circumstances over which I have no control I will sell my fine twenty-five acre orchard in the Rogue River Valley. Fifteen acres are in Spitzenberg apples, six in peach trees in full bearing and the rest set to Newtowns, Kings, Gravensteins and one row of Ben Davis for pollenizers. The number of Spitzenberg trees is one thousand and they began bearing this year. On the place is everything necessary to conduct a first class orchard, all of which will be included in the sale and among which are: Niagara Sprayer, 100 gallon capacity, with four gas drums; apple house built of stone, double walled and of five cars capacity; six room house ceiled, painted and fitted with running water, running water also in barn; fine heavy farm team educated to orchard work; also all kinds of farm implements, plows, harrows, cultivators, Studebaker buggy, Bain wagon and Electric steel wagon. In addition there are three acres of pasture containing some cherry and quince trees one year old.

The place is ideally situated on a hard, smooth road three miles from post office with perfect air, drainage, surrounded by grand scenery and in a climate unsurpassed anywhere

### PRICE \$10,000.00

One-half cash, balance payments at 6 percent.

Address BETTER FRUIT, Box A, Hood River, Oregon, and do not write unless you want a bargain on the above terms in one of the finest fruit countries on the Pacific Coast

## TRIPS TO CALIFORNIA

*Over The Road of a Thousand Wonders—from Portland, Oregon, to Los Angeles through San Francisco*

An artistic book with one hundred and fourteen beautiful colored pictures has been published by the Southern Pacific Company illustrating and describing the attractions of this wonderful road and the country through which it passes. It can be obtained by sending fifteen cents to Chas. S. Fee, Passenger Traffic Manager, room 997 Flood Building, San Francisco, California. Other publications telling about the attractions of California are named in the following list: California Map, Sacramento Valley, San Joaquin Valley, California's Coast Country, Hotel Del Monte, Santa Cruz, Paso Robles Hot Springs, Santa Barbara, Southern California, Los Angeles, Redlands, Riverside, San Diego, Big Trees of California, Yosemite Valley, King River Canyon, Lake Tahoe, The New Nevada, sent free to any address on receipt of a two-cent postage stamp for each publication. Write to

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General Passenger Agent, Southern Pacific Co. Lines in Oregon  
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FIRST  
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EXTENSIVELY  
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### OREGON APPLES

TO THE  
CONSUMERS  
OF THE EAST

The largest and most extensive fruit concern in the world operating in all the fruit growing sections of the civilized globe

### EXCLUSIVE PURVEYORS OF HIGH CLASS FRUITS

Sole importers into the United States of fresh fruits, both outdoor and hot-house, from Asia, Africa, Europe and Australia

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# WHAT WE SAY WE DO, WE DO DO

SEND FOR IT TO NEW YORK—NEW YORK IS THE PLACE FOR IT—SEASON IS LATE

## LENOX SPRAYER \$3.00



NO STOPPING TO PUMP AIR

**YES!** You will get the regular **LENOX IMPROVED SPRAYER** for \$3.00, two for \$5.00, by sending for it to New York. **BEATS THEM ALL. ALL IMPROVEMENTS.** It will spray trees **TWENTY FEET HIGH**, holds twenty-four quarts, built of Apollo galvanized iron. Never rusts, never leaks; forcible and fine spray. **DON'T TALK LONG.** It will do your **STRAWBERRIES, VINEYARD, GRAPES** and all your small fruits, **POTATOES, TOMATOES, CABBAGE** and everything on your place. **WHITEWASHING** the hen house, cow stables, etc. A well-built machine, with care and if not abused, we will warrant it good for twelve years. Turn nozzle up spray will reach all insects upon the ceilings in stables, breeding nests, in poultry houses, in all crevices and cracks, particularly **THE UNDER SIDES OF THE ROOSTS**, and between the **HORNS OF THE COW**, where most of the trouble comes from.



NO STOPPING TO PUMP AIR,  
NO SWEARING

**NO AIR PUMP BUSINESS.** So easy **A LADY CAN USE IT.** **NO STOPPING TO PUMP AIR** or to **SWEAR.** Compress the bulb you get your spray; stop your pressure and you stop the spray, on the principle of an engine **PLUNGER** pumping water, only much easier. By pressing and releasing the bulb spray continuously reaches top of tree without artificial power. You can put your hand inside of sprayer to wash it out as easily as you would a milk can.

**\$3.00**

**2 for \$5**

**Just Now!**



BETTER MILK AND MORE OF IT

**LOTS OF TIMES** you can use a knapsack sprayer in places where you cannot a barrel pump. While talking or hitching up the horses the work is done. Handy at any place. Even if you have a barrel pump you will use this one anyhow. Lots of times a patch off yonder ought to be sprayed, but won't pay to hitch up the horses. If this machine is handy John will sling it on his back and the spraying will be done while you are thinking. Send for our circular. **YOU SHOULD KNOW ALL ABOUT IT.** Or perfectly safe to send for the sprayer direct without waiting for the circular. A small can "Sure Destruction to San Jose Scale" sent free with each sprayer, if ordered at once.

A **RECIPE** issued by a chemist, how to prepare a sanitary lime milk for a whitewash that will stick and stay on the walls of the hen house, trees or stable walls, making insect breeding impossible. Anyone can make it cheaply and quickly wherever located. This recipe will be sent complimentary with each sprayer, if ordered immediately.

Because the season is late you get it for this price



NO AIR PUMPING

**REMEMBER** this is the regular \$5.00 Sprayer we are talking about, but season now a little late, we would rather sell at \$3.00 than wait until next season to get \$5.00. **JUST NOW** you can have **ONE FOR \$3.00 or TWO FOR \$5.00.** Order before they are gone. Time counts. **NO LENGTHY LETTERS** necessary. We will know what you want—that you want one of these **LENOX IMPROVED SPRAYERS**, perhaps a couple of them, and that you want them quick, too, but give us your name and address very plainly. **PROMPT SHIPMENT.** We are old manufacturers. **EXPRESS RATES FROM NEW YORK LOWER THAN FROM ANY OTHER POINT.** Newspaper people have known us for over twenty years. We are old advertisers. What we say **WE DO**, we **DO DO**. You can discount all our promises **AT YOUR BANK.**

Remit by express or post money order; no checks taken for this price. Go down to the **POSTOFFICE** now while you are talking about it. You may get your Spraying Solution and the Disinfecting mixture all ready. The expressman will soon drive up to your house with the sprayer and it will be a good one, too. **VERY WELL FIT** even to take orders for, if wanted from neighbors and neighboring towns. **THE LENOX IMPROVED** is the **STANDARD KNAPSACK SPRAYER**, beats them all; you take no chances when you have a **LENOX.** You won't have to stop from work to take it to the machine shop to find out what is the matter with the air-pump chamber or the nozzle, or anything else. No air-pump nuisance in this case. Our Lenox is ever ready, never failing.

Fine for whitewash lime milk to be used in hen house



PRESS THE BULB, THAT'S ALL



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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT



## SHIPPERS NEED TO KNOW WHO IS WHO

The antecedent and to date business history of every wholesale fruit and produce dealer, wholesale grocery and hay dealer in the United States is summarized in an expressive and immediately understood abbreviation in our

# BIG BLUE BOOK

It contains seventy-five thousand names and in addition to showing the differences in business methods ("XXXX" meaning excellent reputation, "XXX" good, "XX" fair, "X" doubtful, "X-" get special report, "X=" notoriously unreliable.) It also shows their capital rating, also their specialties (like "A" for apples, "Ps" for prunes, "Pc" for peaches, etc.) and further how many cars they handle per year (so that their customers know whether they are buying larger or smaller quantities than their business warrants.) The shrewd shipper with this information can not only avoid dangerous "crooks" but avoid "*well rated thieves*" as one shipper expressed it, meaning firms who have plenty of capital and are well rated by the old mercantile agencies but who take every possible advantage of their distant customers. Right here let us say that the old agencies' ratings may be, probably are, correct from the "bill paying" point of view but that is not so much what shippers need, so much as to know whether they are "bad actors," "rejectors," "knockers," etc. *This class of information is our specialty* and is secured from an every day association with the business transactions of the parties with our large membership. The Adjusting Department, Special Reports, etc., are all valuable to every produce and fruit dealer in the United States. There are several forms of service adapted to the various requirements of shippers, receivers and brokers, which we will be glad to explain upon application.

## PRODUCE REPORTER CO.

OGDEN BUILDING, CHICAGO

*To Fruit Buyers and Sellers:* Having been manager of the Hood River Fruit Growers Union for the past four years, and the Hood River Apple Growers Union for the past three years, I feel that I am doing you a favor when I say that I consider the Produce Reporter Credit Book and Weekly Sheet of inestimable value. E. H. SHEPARD, Editor and Publisher of Better Fruit.

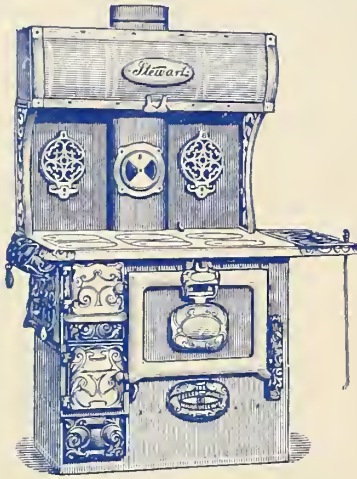


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Home of Good Furniture

We are agents for the Famous "Stewart" Ranges, which are made in different grades, but one quality, and are guaranteed absolutely against defect in material, workmanship and operation

When in need of house furnishings, call on us. We carry everything to furnish your home complete at the very lowest prices; also have the most complete line of office furniture in the Northwest



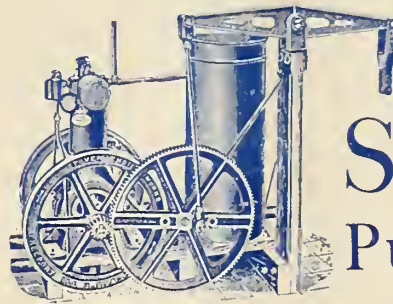
Stewart Magnet, 14-inch Oven.....	\$30.00
Stewart Magnet, 16-inch Oven.....	33.00
Stewart Magnet, 18-inch Oven.....	38.00
Stewart Magnet, 20-inch Oven.....	41.00
\$10.00 extra for Reservoir.	

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Portland, Oregon

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# Stover Pumping Engine

You know what it is for, use it

THE Stover Pumping Engine is the regular two-horse-power model with pumping jack attached. It will raise 1800 gallons of water an hour to an elevation of 100 feet at the cost of two or three cents. The engine can be disconnected from the pumping attachment and used for all purposes requiring two-horse-power. The Stover is worth looking into if you really want the best engine.

Let us send you a Stover Catalog.

It is free upon request.

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LEWIS & STOVER CO



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BEST SORTS FOR THIS COAST

We are growers and importers and pride ourselves on the quality and size of the stocks we send out. Ask for Book No. 202

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